

R E P O R T R E S U M E S

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A RESEARCH STUDY OF THE RATIONALE, METHODS, AND RESULTS OF
"TEACHER-FACILITATIVE" GROUPING.

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INSTRUCTIONAL METHODS WERE DEVELOPED FOR STUDENT GROUPS
WITH VARYING PATTERNS FOR TEMPERAMENTAL READINESS AND
ORIENTATION IN LEARNING TO HELP THE ELEMENTARY OR HIGH SCHOOL
TEACHER ESTABLISH MORE MANAGEABLE AND PRODUCTIVE CLASSES,
SATISFY HIS DESIRE TO HELP CERTAIN STUDENTS, AND HELP HIMSELF
AT THE SAME TIME. THESE INNOVATIVE TEACHING METHODS
EMPHASIZED SUCH ELEMENTS AS VERBAL GROUND COVERINGS, LEARNING
BY DOING, SOCIAL INTERACTIVENESS, AND CONSCIOUS
SELF-DIRECTIVENESS. THE INVESTIGATION SURVEYED 15 TEACHERS
AND A NUMBER OF FUNCTIONAL COURSES. BASED ON TEACHER
SELECTION AND THE RESULTS OF A LARGE TEST BATTERY, STUDENTS
WERE SELECTED FOR AN EXPERIMENTAL CLASS FOR EACH TEACHER. A
CONTROL CLASS FOR EACH TEACHER WAS ALSO SELECTED BY STANDARD
PROCEDURES. EVALUATION OF STUDENT PROGRESS WAS ACCOMPLISHED
THROUGH PRE- AND POST-TESTING AND GENERAL OBSERVATION OF
BEHAVIOR. THE RESULTS OF ALL TEACHING METHODS STUDIED AGREED
THAT HIGHER GRADES WERE GIVEN IN THE TEACHABLE OR
EXPERIMENTAL CLASSES, BUT OTHER CONCLUSIONS SHOWED EXCEPTIONS
IN A FEW CASES. IT WAS DETERMINED THAT ANY ATTEMPT AT
HOMOGENEOUS EDUCATIONAL GROUPING MUST ACCOUNT FOR ATTITUDES
AND CHARACTERISTICS OF STUDENT AND TEACHER ALIKE IF ANYTHING
BUT ACCIDENTAL SUCCESS IS TO BE ANTICIPATED. FURTHER
CONSIDERATIONS AND SUGGESTIONS WERE DISCUSSED IN THE REPORT
SUMMARY. (JH)

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TEACHABILITY GROUPING

A Research Study of the Rationale,
Methods and Results of "Teacher-Facilitative" Grouping

Conducted Under a Grant
from the Cooperative Research Branch,
U. S. Office of Education

Project #428, July 1, 1958 - February 28, 1961

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August 1961

PREFACE

This is the account of a research investigation which began in the spring of 1957 and ended, except for treatment of the data, in June 1960. The question that began the investigation was: how can the "resources" of teachers and students be utilized more effectively for educational purposes in the classroom.

The first year was an exploratory investigation of the proposition that educative classroom activities could be deduced from disciplines of inquiry, and that these should be central in the school subjects. The investigation was conducted with a group of 50 sophomores in the Laboratory School at the University of Chicago. Three Laboratory School teachers, Mr. Robert Boyd, Mr. Paul Moulton, and Mr. "Hutch" Gordon (with the consultation of H. A. Thelen, the administrative facilitation of Mr. Robert Boyd and Dr. Herbert Schooling, and the departmental encouragement of Professor Francis S. Chase) attempted to apply the whole gamut of wrinkles—team teaching, closed circuit TV, feedback panels, telephones, etc.—to the possibilities of better learning through inquiry.

By the spring of 1958, it was apparent that the truth of any statement would depend upon whom we were talking about. In other words, comments about educational method would have different degrees of "truth" from one teacher to the next, and from one student to the next. We became convinced that the nature of teaching and learning in the classroom depends very much on the particular combination of students and teacher. And that until this combination could be described we would not be able to say under what conditions any concept of teaching method could be expected to make sense. This pointed us toward the problem of "grouping"—of the principles for

selecting the students to be in the classes of particular teachers. During the last two months of the sophomore project, we began devising and trying out a wide variety of instruments that might throw light on this problem.

In June of 1958 we were fortunate in receiving a grant from the Cooperative Research Branch of the U. S. Office of Education. The proposal was to investigate "The Development of Educational Methods for Different Types of Students" (SAE 7786). This report describes the activities, findings and conclusions that this grant made possible.

The year 1958-59 was spent in developing instruments and in making arrangements for the next year's experiments in schools. The research team consisted of Mr. Alan Oppenheim, Mr. Henry Peterson, Mr. William Hooch, Mr. Stephen Perls, and Miss Anne Brody, under the supervision of Herbert A. Thelen. Each researcher was responsible for the development and validation of at least one of the instruments in the assessment battery. In the meanwhile, contacts and arrangements with schools were going forward with the assistance of another group in the Department of Education, the School Improvement Program. Messrs. Gilbert, Schlagle, Seager, McCarty, Downey, Holcombe, Evenson, Anderson, and Cunningham were working with a large panel of schools in the area around Chicago, and they were chiefly responsible for helping us to find cooperating schools and to establish and maintain working relationships with them.

In January of 1959, the Assessment Battery was tried out in Skokie, Forest Road, Cossitt, and Congress Park (Illinois) junior high schools, and in Mishawaka (Indiana), New Trier (Illinois), Nicolet (Wisconsin), Bloom (Illinois), and University of Chicago high schools. (A couple of classes in Asa Mercer Junior High School in Seattle were also tested.)

By June 1959, with the assistance of the administrators in the various schools, and through the special efforts of Mr. Donald Cawelti who worked with the research team for six months, 15 teachers were actively cooperating to prepare the way for experiments involving their own classes: Miss Joan Peterson and Mr. Louis Rubidoux at Arlington Heights Junior High School (Illinois); Mrs. Charlotte Zinke at Forest Road Junior High School (Illinois); Mrs. Theresa Parnes and Mr. Jonas Lashmet at Lincolnway High School (Illinois); Miss Janice Swanson and Mr. Robert Borich at Rich Township High School (Illinois); Mr. Henry Abram and Mr. Bruce Sandberg at Niles Township High School (Illinois); Mr. Dawn Neil, Mr. Richard Sherman, and Mr. Raymond Anderson at Bloom Township High School (Illinois); Mr. Vincent Brunner and Mr. Robert Herold at Nicolet High School (Wisconsin); and Mr. Richard Arndt at Mishawaka High School (Indiana). To these teachers, who tolerated our observing, administered many of our tests, and passed on to us their many valuable insights and impressions, we are deeply grateful.

At many stages of data processing and treatment we received great help from the staff of the Operations Analysis Laboratory (Univac), Miss Shirley Golden of the Board of Examinations Office, and a number of consultants: Professors Benjamin Bloom, Robert Hess, Dorothy Stock, Desmond Cartwright, John Butler, Benjamin Wright, and William Kruskal at the University of Chicago; and Ivan Scheier and Kern Dickman at the University of Illinois.

Along the line, Master's papers and theses in connection with the project and its data have been written by Stephen Paris, William Hock, Anne Brody, Henry Paterson, and Jane Blare. Ph.D. theses, still in preparation, will carry the theory further than is possible in this

report. The authors are Henry Peterson, Alan Oppenheim, William Hoock, and Stephen Perls.

Hard work, both creative and routine, has been the lot of the research assistants from July 1958 to December 1960. They have worked as a loyal team, devoted to the inquiries here reported. And, with the assistance of Professor Francis Chase, they have, in the absence of the principal investigator, worked through a pilot project (chapter 7) for the purpose of developing methodology for assessing the changes that occurred in the social-psychological relationships within the classrooms.

This report was written at the Center for Advanced Study in the Behavioral Sciences, with the assistance of the Center, the Department of Education, Mr. Henry Peterson, and a wonderfully able secretary, Mrs. Julie Raventos.

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Chapter 1

Evolution of the Investigation of "Teachability Grouping"

Reasons for Being Interested in Grouping

Common experience, backed up by a very large number of studies, gives us every reason to believe and none to doubt that the particular combination of teacher and pupils in the classroom has significant consequences for education. Teachers may be interested in grouping for a variety of reasons:

One reason is the hope for more manageable classes—groups that are easier to deal with, a little more attentive, a little more responsible; groups that have fewer problems of interpersonal conflict, fewer delinquent and more supportive combinations of students.

Another reason for teachers' interest in grouping stems from the hope for more productivity—for groups that work harder, cover more ground, complete more assignments, meet higher standards.

A third reason grows out of the desire to help certain students. The child who is a fish out of water in one group may be more at home in another. What kind of group will put a student at ease? Which classmates can help him release his potentials?

A fourth reason—one we hear less often than the others—is the hope of helping the teacher as a person. Certain students present threats to teachers. By grouping, these threats can be avoided. Most teachers probably get along better with some children than with others. Quite naturally, perhaps, teachers beam their teaching toward the children with whom they feel a bond. They are better teachers when they work with these

children—who may be the more dependent children or the better contributors or the most out-going students.

A fifth reason for interest in grouping leads us to the subject of school achievement. Teachers want their students to learn more, to get better grades. Presumably this desire has some relationship to the other hopes we have described. Yet the teacher who has a more congenial and manageable class cannot necessarily count on greater school accomplishment. The friendship group that some teachers and parents hold as their ideal may be rewarding psychologically to individual students and yet not be especially conducive to school learning. Friendship of itself does not guarantee that students will apply themselves to school tasks or to intellectual achievement.

Normal Processes of Selection

The process of selecting students for classes begins long before the teacher actually meets his students. There are four points at which selection occurs. The first selection determines which school-age children in the community will go to school. With younger children, social and economic selection is relatively ineffective. Most of these boys and girls are in school. But with every year of age, social and economic factors exert stronger pressure. Their influence is obvious in the schools of a large city. In Chicago, for example, the rate of turnover—that is, drop-out and replacement of students—ranges from 1 or 2 per cent to close to 300 per cent during a single school year. The way school-district boundaries are drawn may have a marked influence on the nature of the student body in a particular school. Maximum heterogeneity is obtained when a large central high school serves an entire metropolitan area; maximum

homogeneity results when several smaller high schools serve relatively homogeneous neighborhoods.

The second point of selection is the division of the total school enrolment into large subdivisions. The most common division is by grade, which is roughly a separation by age with some modification, depending on promotion and performance. The division into various curricular tracks is also common, and division by ability seems to be increasingly popular. Another possibility is the division of a large school into several smaller schools, each with several hundred students and its own core group of teachers. It is possible to imagine a school that has no subdivisions, a school in which the staff studies the entire student population in search of children who would profit from a particular classroom.

The third point of selection is the formation of classes. Typically, a class is a group of about twenty-five to thirty-five students assigned to one teacher for instruction in a subject. A class could be a collection of fifty students assigned to three teachers for instruction in several subjects. Or a class could consist of any other combination of teachers and students. In this sense, a class is an administrative unit, marked off by the assignment of responsibility to particular adults.

The fourth selection occurs when the actual instructional group within the class is formed. The instructional group is the particular congeries of students with whom the teacher is working at any particular time. This group may be, and too often is, identical with the administrative class; however, many kinds of subgroups can be formed to get a better organization of effort in various learning activities.

Last year, for example, fifty sophomores were assigned to three teachers for instruction in three subjects in the Laboratory School.

Yet all fifty students were hardly ever brought together for instructional purposes. The instructional group seldom exceeded seventeen. For more than half the time, the students were working alone—in groups of two to four, in project committees of five to twelve, or in small classes (with the teacher present) of sixteen or seventeen. The entire group was assembled only when the students were to be an audience for the presentation of information, for stimulation by participation in a dramatic affair, or for participation in "town meetings" to consider the state of the Sophomore Project.

These, then, are the kinds of selections whose cumulative and successive impact determines the group toward which the teacher beams his educational efforts. In what follows, however, we shall be concerned primarily with processes of selecting students for classes, not subgroups.

Experiments and Concepts Relevant to Grouping

One concept, currently gaining influence over educational practice, is to group students by "ability." In many schools today, there may be as many as four or five "levels," with the students within each level having similar "ability." Ruth B. Ekstrom has reviewed all the published experiments on this "homogeneous ability grouping"¹ and has noted that the results are indecisive. In those cases where the selection of content, materials and teaching method took into account the ability level of the group, the results favored segregation. It is very often the case at present that the methods of teaching are not particularly appropriate to the homogeneous groups, and hence fail to realize whatever potentials such grouping might otherwise have.

When we asked a dozen teachers to compare their experiences of high ability homogeneous groups with "mixed" groups, we found that some

preferred one and some the other. Those who preferred the homogeneous high ability group appear to be covering the same ground in the usual way with very little adaptation of teaching method to the bright students; and they find that teaching is easier because the students comprehend faster and are more intelligent. The teachers who have been disappointed by their experiences with high ability groups appear to have changed their teaching methods because they thought that brighter students should be capable of "more" than a mixed group. Thus these teachers have tried to put the students "more on their own," and have expected the students to be more strongly "motivated." The disappointment seems to result from the incorrectness of these assumptions. There is no evidence (for example in the Getzels-Jackson study of "gifted" students)² to suggest that high ability students are necessarily more self-directing or more motivated under classroom conditions. These conversations support our view that the educational result depends both on grouping and on the appropriateness to the particular group of the method of teaching.

Bruno Bettelheim, in "Segregation: New Style,"³ while mainly concerned with the hidden motivations behind the present concern for special provisions for the "gifted," gives plausible theoretical reasons why children separated by ability may be hindered in moving toward educational goals. (He does not speak of achievement, but of education.) Bettelheim considers the importance of the child's social-educational class background as the determiner of his expectations, and he also considers the possibility that gifted children would be better off in mixed classes—on the grounds that the "average" teacher may tend to "free" their giftedness rather than circumscribe it in anxious competitiveness. Thus Bettelheim raises the issue of teaching method appropriate to the particular

group:

Torsten Buren and Nils-Aris Svensson,⁴ report an experiment in the Swedish schools in which both ability and social-educational class background were taken into account. They conclude:

"In the experimental population as a whole, the plus-select classes (high ability classes) tended to be superior to the undifferentiated classes (mixed), and the latter were in turn superior to the minus-select classes (residue after removing the gifted children). But these differences virtually disappeared when the social classes were considered separately.

[Italics added] A most important exception was the tendency for pupils in the lower social class to benefit more from transfer to the plus-select milieu than children from either of the other two classes."

The problem of taking into account the social-cultural and emotional dispositions of boys and girls is a complex one. In fact, there is not much agreement on what these factors are or on how to define them: Hemphill⁵ has developed scales for measuring 14 dimensions of social groups (e.g., vicidity, homogeneity, flexibility, permeability). Cattell and Stice⁶ identified 12 factors which they regard as basic dimensions of group behavior (e.g., plodding fortitudinous morale, intellectually effective role interaction, frustration through temperamental heterogeneity, garrulous nervous emotionality). Borgatta, Cottrell, and Meyer⁷ analysed studies conducted by themselves, Cattell, Saunders, and Stice, and Hemphill and Westie. They concluded that five dimensions were common to the three studies, and Stogdill has dubbed these dimensions: differentiated

role structure, informal integration, goal direction, group integration, and within-group interaction facilitation. Carter's earlier study⁸ of results obtained by himself, Wherry, Sakoda, Hemphill and Coons, and Clark led to identification of three basic aspects of member behavior: individual prominence and achievement, aiding group attainment, and sociability. In the face of so many relevant factors that could enter into grouping, it is not surprising to find that school men have arrived at a great variety of ways to group students into classes. Harold G. Shane⁹ lists 22 bases of grouping reported in the literature. He concludes with:

"It seems reasonable to conclude that the 'best' grouping procedures are likely to differ from one school to another, the most desirable practice often being dependent upon such factors as: 1) the competence and maturity of the local staff, 2) the nature of the physical plant, 3) school size, 4) class size, 5) the local curriculum or design of instruction, and 6) a highly intangible quality—the intensity of the desire of a teacher or a group of teachers to make a particular plan work effectively.

"The philosophy and ability of the able teacher are undoubtedly more important than any grouping plan, however ingenious it may be, with respect to creating a good environment for teaching and learning."

Thus Shane concludes that the teacher's own competence, design of instruction (method) and a desire to really teach the class, are the most significant factors. From this review, we conclude that there are three major factors to be taken into account. One is the teacher, as the most

influential factor in the classroom; the second is the classroom group, with its very large array of properties all of which have something to do with learning effectiveness and none of which is decisive; and the third is the socio-educational "background" of the personnel. Each of these factors can be worked on: Effort can be expended to make the teacher a better (e.g., more inquiry- or education-oriented) teacher; a group can be selected in such a way that it maximizes his competence and hence its own learning; and the school system can be combed to find the best socio-educational milieu for each child. Of these three approaches, the first boils down to better in-service education; the second we identify as the selection of "teachable" groups; and the third exists as a statistical generalization which, one would suppose, will work or not in a particular case depending on the class-orientation of the teacher.

Background of the Present Project

Our present project grew out of an exploratory investigation of some conceptual, methodological, and procedural implications of two propositions: 1) That educative learning takes place through the processes of inquiry;¹⁰ and 2) That the classroom group can be viewed fruitfully as a miniature society.¹¹ We investigated these propositions through participation in the teaching of three "subjects" to a class of 30 sophomore at the University of Chicago Laboratory School during 1957-58.¹²

We gradually became aware of the fact that our reflections on classroom phenomena, interesting and stimulating as they were to us,¹³ were yielding no clear-cut results. We did not expect to be able to come up with a set of cookbook procedures to be fobbed off on teachers from now on; but we did expect to be able to say definite things about the

relationships between self-direction and inquiry; between group stimulation and motivation; between planning of work and nature of subsequent performance. Actually what we discovered is that these and other relationships depend very much on what sort of person the student is. What made sense for one student did not make sense for another; moreover, the significant differences between students did not seem to be quantitative so much as qualitative. It was as if they represented different "types," with different approaches to learning, different ways of using social relationships, different kinds of facilitative rewards and punishments, different degrees to which any learning experience had centrality within their need systems.

Here are three kinds of events that helped bring these matters home to us:

- a. Given the job of working algebra problems, twelve students seemed to work best alone, seeking help from the teacher on their own time after school; ten seemed to work best in groups of two or three, discussing all aspects of the work (and much more besides) together; twelve seemed to work best in a rather formal "classroom" setting, with the teacher in direct charge and always available for help; and the remaining fourteen seemed to work equally well or badly under any of these three methods of organizing effort.
- b. Six students who were outstanding in achievement were excused from further work in the three subjects during the last month of the school year. They were set free to investigate on their own any topic which they and the teachers, sitting as a seminar, thought would be worth their while.

Three of these students turned out creative, insightful work; the experience was challenging, exciting, and highly productive.

The other three—equally bright and equally good achievers—probably did not do as well as they would have done within the "regular" class.

- c. Our three teachers taught by quite different methods. One was an excellent lecturer; another made use of committee-planned projects; the third guided intellectual discussion to analyze problems and to explain steps in problem solving. What we discovered is that these kinds of activities or methods of teaching seemed to be appropriate for some students but not for others. It is true that a few students—possibly 12 out of the 30—worked well under all these methods. But for the most part they had decidedly different preferences, motivations, standards, and abilities under these different methods. Granted that teacher personality and subject "difficulty" account for some of the differences in response, we nonetheless felt that plenty of variance was left unaccounted for by these factors.

These and many other observations of "individual differences" were hardly unexpected. What was unexpected was that the differences were so vital—that they seemed to make so much difference. It became clear to us that the reason so much discussion of teaching in Education courses seems vague, "soft," and opinionated is that the validity of any statement depends on what the students—both individually and in a group with the teacher—are "like;" and that until we can find some way to describe particular classes with precision, we shall be unable to make any statements

except about very general policies or idealized images whose relationship to reality is unknown.

The net result of these reflections was the development of commitment to two propositions:

- a. That students differ in their approaches to learning experiences; and that learners may be of several different "types."
- b. That each type of learner will learn most effectively when taught by methods which take his "type" into account.

The original aim of the present project was to investigate the meanings and validity of these propositions.¹⁴ It launched us on a study of the various possible ways in which "types" of students might be identified.

Types of Students as Perceived by Teachers

Ever since we were soberly assured by a very fine elementary school teacher that pupils are either "wrigglers" or "squirmlers," we had wanted to talk with more teachers about types. In the summer of 1958, at a Workshop in Oklahoma City, we asked 70 teachers, supervisors, and principals to write out descriptions of the various types of students they identify in their high school classrooms. We discovered that the 300 descriptions thus obtained could be classified under four major types of students: the Good, the Bad, the Indifferent, and the Lost.

The Good types are those that teachers can work with. Their behavior is responsive to task, group, and teacher, and on the whole they are "there to learn." They include:

1. Natural leaders: they not only go along with the task but identify with the teacher and help bring others along too. Thus they volunteer for every step of the way. They go and up with good grades.

responsibility, and, for example, in a project group they organize the work and keep the others on the beam.

2. Autonomous and self-directive: these get excited about the subject, are challenged by it, and are capable of working on their own. They do not make trouble for others and they ask for help when they need it. They can be counted on for novel interpretations and for seeing new and stimulating angles and possibilities.

3. Interdependent, high achievers are oriented to work, getting good grades, and getting along with the class and the teacher. They are bright and successful; they also stay within boundaries and expectations in the situation and do not often come up with creative ideas. They do what is to be done, and they do it well and with enjoyment.

4. Interdependent, low achievers are just like the students above, only not bright enough to be very successful. But they fit in with the class so well that nobody really holds lack of achievement against them.

5. Non-conforming but work-oriented: these students accept the achievement task, but have to find a "different" way to approach it. The need for the "different" way is aimed only at being different, at divorcing themselves from the herd.

6. Non-conforming, creative: these students need to be different not only with respect to ways of working but also with respect to the goal. Very often they set a more difficult task than is required. Their behavior has much in common with type 2, but they enter into it for the "wrong" reasons—namely, for defiance rather than autonomy.

7. Conforming and dependent youngsters accept the goals and want to achieve, but they seem helpless and need to have others guide them at every step of the way. They may end up with good grades.

8. Submissive: These students often don't know what the task goals are. They want only to deliver the behavior the teacher wants, and theirs not to question (or understand) why.

The "Indifferent" students are non-toxic in class. They don't care about work and education—they can take it or leave it. They do enough to get by, and they don't make trouble. Some of them are seen as pleasant and likeable.

9. Happy-go-lucky: this chap has vast good humor, likes people, and leavens the classroom routine with a twinkling impudence, amusement, and non-hostile wise crack. He stays well within the bounds of decency and he "ain't mad at nobody." Kind of fun to have in class, once you give up trying to educate him.

10. Beauty Queen: This one "preens during class, getting ready to strut in the aisle between classes." She has a pleasant smile for the teacher, gets C's, and remains preoccupied with mysteries beyond the reach of the petty affairs of the educational program.

11. Gone on athletics: this inert substance daydreams about the masculine world of physical prowess. He is a cultist, unaroused by the hair-splitting verbal nonsense surrounding him.

12. Duck-tail haircut: another cultist, with his leather jacket, jeans, wide belt, and preoccupation with the gang. Just waiting for the bell to ring and for his school-leaving birthday. Knows better than to try to "start something."

13. Frig: this one's resistance to involvement is achieved through a petty but crippling moral literal-mindedness. She sits in judgment on everyone, and sooner or later finds something bad about all of them. Narrow-minded and insular, reasons, goals, and causes remain outside her lexicon of life.

14. "I-don't-need-an-education": this type may be bright, friendly, and outwardly cooperative. He is perfectly honest: his father is a self-made man, and Junior will be a partner in the sporting goods firm. He likes his father, and truly doesn't see what all this school work can add to his probable success.

The "Bad" students are the ones who anger the teacher. They are hard to handle, and the class would be a lot better if they would just disappear. Teachers seldom are able to empathize with these students enough to understand them, or even to control their own anxieties at not being able to deal with them.

15. Teacher impressers: these are big talkers, always putting on an immense show of interest and of being lost in a flurry of activity. Their unawareness of their own hypocrisy is so great that, when taken to task, they retreat into injured innocence.

16. Short-cutters: these seek the easy courses, the "soft" teachers, the quick way to meet demands without effort. They want rewards and recognition, but they scheme rather than work for them. They are often smart and for the most part cynical. "Any kind of cheating is OK," "no sense of right and wrong," "sneaky."

17. Clowns and attention seekers: with reference to this group, our reporters really let themselves go—"always acting a part—must be center of attention;" "wants to annoy teacher and disturb class—mother says it's the school's fault;" "they know they can get the teacher's attention by tantalizing her;" "feels responsibility to entertain class."

18. Misdirected superior: "delights in needling the teacher with floundering questions;" "thinks he knows more than the teacher;" "acts bored with explanations and assignments;" "scoff at other kids' efforts;" "use

cleverness to avoid work but can always pass because of high intelligence;" "lazy;" "doesn't care to share his knowledge."

19. Social climbers: "those who attempt to organize cliques to gain importance socially and become frustrated when they meet with opposition. This usually creates problems at home and at school."

20. Monopolizers: these students think (?) out loud all the time, and go their own verbal way, with little responsiveness to what the class is trying to do. They can't take criticism, have no respect for authority, may be aggressive if crossed.

21. Hero worshippers and blind followers: these idolize another student or the teacher; or simply slavishly follow the crowd. They work hard at giving up all signs of their own person, and they live vicariously in someone else's skin.

22. Anti-social and destructive: these differ from other anti-social types in that there is less feeling here that the behavior stems from misguided need for reassurance, and more feeling that it expresses hatred turned outward; their problems are always said to be the fault of others. "Defies the teacher," "doesn't want to work and doesn't want anyone else to work," "a gang spirit," "delinquent," "poor sense of values," "uses profanity in class," "deep inadequacy covered up by daring attacks."

The "Lost souls" are quiet types, fearful, withdrawn, and miserable. They all have very little self-esteem.

23. The rejected think nobody likes them; every effort to help them is seen as a slight or insult. They trust nobody, not even themselves.

24. The dreamers are wrapped in impenetrable shroud of dreams; they are simply "not there;" unreachable.

25. The sufferers would like to participate, but find it too painful; being called on is torture. For them, avoiding pain is the main goal, and everything is painful.

26. The passive are seemingly without affect; they never express like or dislike, enthusiasm or resistance. They drag through required work, but seem almost totally uninvolved and detached from it.

This, then, is what the teacher contends with; this is his perception of the ways students relate to the world of the classroom—and his own feelings about these different sorts of relationships. One may ask: Do these types exist? Are they real? The answer is that one behaves not in terms of what he thinks is real. As long as teachers see students in these ways, they will react to them as if they were really that way; and if this goes on long enough, that is the way the boys and girls will become.

Types of Students Resulting from Assessment of Personality

It seemed clear to us that the types of students perceived by teachers may be very largely images projected from their own need systems: the good, bad, indifferent, and lost. We felt we wanted our types to be based on something more objective than that, and so we decided to devise a test to assess those aspects of students' personalities that, hopefully, would be most significant for learning under classroom conditions.

The first step in this endeavor was to recall the various differences among our Sophomores that we had had to cope with. We recalled¹⁵ that:

First, students do approach subjects differently. One child can make sense out of algebra presented symbolically and theoretically; a second child probably needs to have the symbols tied down to objects like blocks, moving wheels, and data-producing experiments; a third youngster

needs to see algebra in relation to how people like himself can use it in everyday affairs; a fourth is mostly intrigued by its puzzle-solving aspects, which are attractive partly because they are so remote from "life"; a fifth child is struck by the beauty of the systematic organization and logical coherence of the subject. A clear implication is that very probably there is need for different methods of teaching, with different emphases upon symbolic and operational experience, different mixtures and sequences of induction and deduction, and different contexts (social, experimental, physical) for algebraic problems and principles.

Second, students do seem to work best in particular kinds of social organizations. Thus one student seems to work problems best by himself; a second works best with a buddy; a third does better with a small clique; and a fourth is least distracted and most stimulated in a larger group.

Third, students differ very markedly in the kinds and amounts of instructions they need in order to work effectively. One student works effectively only when he knows in specific detail exactly what he is "supposed" to do next; a second student makes the most out of activities whose purpose is defined in general terms but whose materials and resources are not spelled out; a third student is more challenged when he can plan the activity as well as execute it; a fourth is stimulated by hearing the ideas of others and then creates something different for himself, and so on.

Students' ideas differ about who should make the decisions that guide learning. Thus when we ask students "who should decide" each of twenty-four matters about the class, one student answers that he, the student, should make twenty-two of the decisions for himself; another thinks the teacher should make all but one; and yet another student wants to leave

most of the decisions to the class!

Fourth, students differ in the kinds of support and clash that stimulate them to learn. A student who challenges another to creative self-expression may drive a third to tears or sullen apathy; two friends may form a clique which is impenetrable to group purposes, or they may be a strong combination which gives the group excellent natural leadership; a student may be tied up in anxiety which can be released by the spontaneous expression of hostility by a classmate, yet the same kind of expression may tie another student in knots. And, to some extent, these considerations may apply to the teachers, too.

Fifth, students differ in the amount of knowledge and experience they can bring to bear in an investigation. This is the problem of resources for the group, and it probably reflects interest in the subject as well as more spectacular personal variations in experience. At any rate, it is likely that group investigation is helped by having students who can relate questions and concepts to a variety of observations.

Sixth, and to infinity, inclusive: physical energy, creativity, frustration tolerance, ego ideals, sex attitudes, spontaneity, self-concepts—all enter into the picture.

We also, during this period, surveyed the literature, reflected on the researches on group composition that had been going on in the laboratory since 1951,¹⁶ talked things over with all the teachers we could, and finally formulated, in an article for School Review, the most promising basic dimensions out of which the various types might turn out to be constituted. These dimensions are: a) the values the student holds with respect to classroom-relevant goals and assumptions; b) the student's pattern of emotional reaction to stresses in learning situations;

c) the kind of teacher the student can "identify" with, and the nature of this identification; d) the student's structure of threats and defenses with regard to his interaction with peers; e) the "ability" of the student, defined in terms of "maturity" and "sophistication" with regard to subjects rather than in terms of IQ and/or some general index of "achievement;" and f) the student's own motivational pattern as reflected in his preferences for engagement in different sorts of learning activities.¹⁷

By this time, funds had become available through the Cooperative Research Branch of the U. S. Office of Education.¹⁸ We recruited five research assistants and proceeded to the next step: the construction of the assessment battery. The battery slowly evolved through the successive stages of construction, try-out, modification and validation by comparing interpretations from each test with impressions of teachers. Each member of the research team assumed responsibility for the development of at least one instrument, and the entire group participated in viewing results and offering suggestions for improvement. The battery, completed in January 1959, contains the following tests:

1. "Situations" - forced choice questionnaire assessing fight, flight, work, pairing, and dependency tendencies in social stress situations. This test is an objective form of the Reactions to Group Situations (sentence completion type) test developed and validated in previous research in the laboratory.
2. Words! Words! - semantic differential test, associating 14 word-pair continua to 13 goal and person concepts. The word-pairs were developed by Professor Benjamin Wright; the first form was tried out in the Sophomore Project.

3. Teacher Descriptions - rating and ranking of 6 given "types" of teachers with respect to "typicality," "learn most from," and "feel most comfortable with."
 4. Participation A & B - rating and ranking forms, respectively, ascertaining relative preferences for working, under five social conditions (alone, friends, class, etc.), with five kinds of interaction (common purpose, uninvolved, threatening, etc.) and in two roles ("telling" and "listening").
 5. Ways of Doing Things - rating of the extent to which each of four social conditions (alone, group, etc.) has each of 20 proposed advantages (rewards) and disadvantages (punishments).
 6. Who Should Decide? - checking which of five agents (you, teacher, class, etc.) should make each of 24 decisions about progress, materials, standards, etc. This was piloted in the Sophomore Project.
 7. Reactions to Groups - In two contrasting situations, checking behaviors one would or would not do, whether a boy or girl would do it, whether one would approve or disapprove the other person doing it.
 8. Values - rating of value items keyed to the categories developed by Charles Morris.
 9. Classroom activities - Frequency and worthwhileness preferences for described activities of four sorts. Piloted in Sophomore Project.
- This battery ran to 43 pages, took 3 hours to administer, and elicited

715 responses from each student. From the battery, 172 scores were calculated for each student—using punch cards and IBM machines. The tests were administered to 750 students in 11 high schools located within driving distance of Chicago. For factor analysis, we selected 216 students in grades VIII through XI. In the sample there were as many boys as girls; there was equal representation of three ranges of economic "class" (laborer to professionally trained executive); IQ was evenly and comparably distributed through the class, grade, and sex groups.

The largest factor, accounting for about 11 per cent of the data, is one we call the "goody-goody" factor. It is contributed to by all the scores through which a child says how well he likes things—teachers, ways of working, goals, other kids, and so on. It is also contributed to by scores which, taken together, give a picture of conformity: the student who is high on this factor likes everything expected of him, no matter what it is. It is accompanied by rather low-level work, and by lack of emotional involvement. There is rejection of fight and flight, and of all but rather muted expressions of feeling. We could not help but wonder if this factor doesn't portray a highly successful adjustment to the demands of the typical classroom; and, if so, it should probably be called the "survival" factor. It is more characteristic of upper- than of lower-class (economically) children. This factor is negatively

The second factor, accounting for about 7 per cent of the data on these high school students, is a social-sexual factor. The sexual part has to do with discriminating between boys and girls, having different expectations for the two sexes—as compared with thinking of them as interchangeable. Along with this goes acceptance of emotion, preference for active rather than passive interpersonal relationships, and a distinct

liking for decisions to be made by the "group" rather than by oneself, teacher, or large class. This factor tends to be more typical of the younger and brighter students in the seventh to ninth grade range, and probably spots a particular developmental task characteristic of this age.

The third factor, accounting for about 7 per cent of the data, is characterized by tentativeness and confusion with respect to participating with other people, in uncertainty about what values are important, and in variability with respect to items getting at deeper indications of personal security. There is confusion about one's own sex role, retreat into passivity, concern over personal-social relationships, and avoidance of emotional expression.

The fourth factor, accounting for about 5 per cent of the data, appears to be a combination of rational consistency with needs to exploit one's peers. There is great preference for "telling" and rejection of "listening;" moreover, what one tells about is himself, his feelings, his opinions. Working together for a common goal is rejected, as is acceptance of responsibility for one's own progress. There is preference for activities involving the class as a whole (i.e., in which one is anonymous, can't be checked up on easily, and can avoid responsibility). The most attractive value is sensual enjoyment. This factor is negatively related to IQ, and tends to be found with lower-class boys.

The fifth factor, also accounting for about 4 per cent of the data, is strongly female and is associated with low IQ; there is a tendency for lower-class and older students to enter in, also. The dominant note is identification with boys' activities and behaviors. There is strong preference for listening rather than telling, for submission rather than dominance, for

comfort rather than work. There is a good deal of interpersonal "sensitivity."

The sixth factor, accounting for about 3 per cent of the data, is for boys. The strongest component is the value of social restraint, but it has nothing to do with altruism, which is the lowest rated value. It has instead to do with submissiveness, which shows up in just about every score that could be thus interpreted. The preferred teacher is the authoritarian, the most worthwhile activities are teacher-dominated; listening is strongly preferred to telling. Identification is with female behavior; judgments are made critically and evaluatively of other people; nothing is voluntarily revealed about oneself.

The seventh factor, about the same "size," is a classical textbook picture of counterdependency; that is, of denial of one's own dependency. There is strong rebelliousness against adult authority, against the discipline of working on tasks. Peer groups are used to assert oneself, not to listen to others. At the same time, there is a seeking of warmth from others, and a strong rejection of opportunities to "be on one's own." There is evidence of confusion about the male role, and of deeper insecurity and feelings of inadequacy. This factor is shown most by boys of high IQ.

The eighth factor, also about 3 per cent, is most represented in the younger children, and somewhat stronger for boys than girls. It seems to represent an effort to submerge oneself in group activities, preferably with a few other students. Probably likes to "do things" with a group of kids, but brings very little to the group. Tends toward passivity and avoidance of responsibility. It is the picture of a "fringer."

The ninth factor, also about 3 per cent, is for young, high IQ students. It shows a strongly teacher-centered person who wants the

teacher to set out a respectable thought-out course of study, to stimulate the student and make demands on him, and to work closely with him. The student likes information and listening to reports. The value picture suggests thoughtfulness rather than mere "academic" achievement. The student rejects practically everything that has to do with the class, and probably has trouble coping with peers.

The tenth factor, also about 3 per cent, is rather similar to factor 9 in its teacher-centeredness. A different kind of teacher is preferred, however, namely the rule-given or authoritarian. There is strong preference for working alone, within boundaries set by the teacher. There is rejection of the teacher who tries to plan with the student, and rejection of class activities.¹⁹ Most interesting to us is the clear revelation of the very wide array of non-learning concerns of children. Conformity, confusion, sex identifications, reactions to authority, relating to (or avoiding) peers—these sorts of problems and needs probably "drive" the interaction in the classroom much more than interest, let us say, in The Merchant of Venice. One suspects that the prescribed "materials of instruction" and academic tasks set by the teacher may be useful primarily to provide a content vehicle for exploring and working on these higher priority social-emotional-sexual developments. After all, these are high school students.

To confound and confuse the picture further, no actual student can be represented by a single factor. Any of the ten factors presented above may be strong, middling, or weak within a particular student, and all combinations are possible. It is clear that the dynamic world of the group, out of which a social order is created, is a world of phenomena that lie below "consciousness" a unique factor, defined very differently from one teacher's speech and usually mostly below consciousness. It is the world of motivations, tensions, and energy systems; and it makes insistent high priority

demands on the realms of thought, memory and behavior. Events in this submerged world, manifested in the over-all problem of reconciling psyche and socio systems, have much to do with the quality, amount and meaning of learning.

Empirically Determined Teacher-Facilitative ("Teachable") Types of Students

The factor analysis, while immensely interesting (and expensive!) was discouraging. We had to discard the notion that there would be a few, neat, and all-inclusive categories of students. The first ten factors, described above, accounted for only about half of the variance in the test data. A large number of even smaller factors, as yet undescribed, would be equally influential in the classroom.

Following a good deal of reflection on this situation, we finally realized that the one certain fact we could count on is that in each classroom some students have more meaningful and better experiences than others. Perhaps the best way to compose a class would be simply to select, for each teacher, students like those who, in his opinion, had been most successful with him in the past! This became our definition of the "teachable" student—and we suspected that it would be a different definition for each teacher.

The remainder of this report details how we tested this hunch, and with what results.

Three questions were explored in the effort to decide whether to act on the hunch. First, to what extent is "teachability" a general factor, defined the same way by all teachers? Second, to what extent is "teachability" a unique factor, defined very differently from one teacher to the next? Third, can we describe this factor at all and, if we can, does it make sense in the light of other knowledge?

The extent to which teachability is a general factor could be assessed by asking teachers to name the students who, in their opinion, had the most worthwhile experiences in their classes. If they all chose the same students, then we would conclude that "teachability" meant the same thing to all the teachers. But if they chose different students, it would mean that the property of "teachability" differed from teacher to teacher. We already had some data on this point. During the Sophomore Project, the three teachers had been asked to tell us which of the fifty students they thought were getting most out of class.

One teacher selected 7 and the other two 9. Of these, only three students (6% of the group) were selected by all three teachers, and 5 additional students were selected by two teachers. (This small agreement was also found in a larger study by Getzels and Jackson.)²⁰ Of the eight students nominated by at least two teachers, seven had taken an extensive questionnaire of "what classroom activities the students considered most worthwhile." Here are the items selected by at least four of these students. (The number in parentheses tells how many.) We have grouped the items according to what appear to be their common themes:

Personal trust in the teacher, and acceptance of the
teacher in the role of expert and authority

Getting feedback—test scores and teacher's opinions about how well you are doing. (6)

Getting help during conference hour (from the teacher) (6)

Listening to a lecture by (the Social Studies) teacher (7)

Being a member of (the math teacher's) class (4)

Listening to a lecture on closed circuit TV by the (Social Studies) teacher (4)

Listening to explanations by the English teacher to a committee of

which you are a part (4)

The English teacher's insistence on "good working conditions" (discipline)
for the group (4)

The students Interest in ideas and information willingly accept

Watching a movie (5)

Listening to "outside speakers" from the University itself (4)
involved in the class.

"Achievement" and grades

Considering the small amount of agreement of the teachers on their
Getting ready for an exam by reviewing in class with other students and
"teachable" students, and also the small amount of agreement of the
the teacher (5)

Going over a test (after it is graded and handed back) (4)

Taking a social studies examination (4)

Answering questions in class (4)

extensive analysis Interaction with other students

Discussing current events in a group with other students (4)

Seeing problems put on the board by another student (4)

Individual responsibility

Doing outside reading in preparation for a report to the class (5)

Setting up equipment, running the recorders, operating the telephone

switchboard (that connects the students by phone) (4)

Practicing your part for a production (4)

Writing a paper on an assigned topic (4)

in teachers' presence Personal involvement in the work

Writing an original paper voluntarily (5)

Deciding who you will work with (4)

Planning your own work yourself (4)

Thinking about and deciding which aspects of a unit (of work) you wish to specialize in (4)

The students chosen by these teachers apparently willingly accept the teacher's central role, they accept his guidance, they are motivated to "achieve," they enjoy taking responsibility, and they are personally involved in the class.

Considering the small amount of agreement of the teachers on their "teachable" students, and also the small amount of agreement of the 7 students on the items, it seemed reasonable to conclude that teachers mean quite different things by "teachability." There is, however, a common element running through the agreements: the items are all symptoms of superior maturity—a conclusion which very accurately anticipated the extensive analysis presented in Chapter 3.

In another preliminary study, we made up a Q-sort, consisting of 50 behavioral traits of students. Forty teachers were asked to sort out the list, indicating which traits best described the kind of student they considered superior and productive. These teachers showed very little agreement. They placed markedly different emphases upon critical thinking, social adequacy and cooperation, and personal maturity. The fact that the image of the preferred student—presumably the kind the teacher beams his instruction to—differed from teacher to teacher added weight to our hunch that just as different students learn best under different kinds of teaching, so teachers probably differ in the kinds of students they are able to "reach."

Finally, we asked one of the teachers, many of whose students had

already been tested on the assessment battery, to give us the names of several who, in her opinion, "got a lot out of class," and several who "got very little out of class." Then we analyzed the tests to see what differences they revealed between these two groups of students. The results were: First, the successful and unsuccessful students did not differ very markedly on specific scores, but they did differ in the patterns of rather small differences among many scores. This was of considerable interest because it suggested that no one or even several factors like IQ, age, interest in working in groups, etc., could be used by themselves as selection factors. Second, the more successful students were in many ways quite unlike the teacher. Complementation rather than congruence may well have been the more important principle. Thus the teacher appeared to prefer a rather remote relationship to others, was somewhat passive in interactive situations, and tended to see herself in the role of rationally-oriented and dominative expert. The students she picked as successful differed from the unsuccessful in that they accepted this role of the teacher for purposes of learning, did not feel very comfortable with it, and themselves tended to be active, had preference for committee and friendship groups, and accepted considerably more emotion than the teacher did. Thus there was homogeneity in the expectation of the teacher's role but complementation in the areas of functional adequacy—with the students, by and large, adapting to the teacher rather than vice versa. These findings, derived from one teacher, seemed eminently reasonable, and we had no reason to suppose that the situation would be very different with other teachers.

The notion of selecting students to fit an empirically determined model seemed to us to be attractive. It would not depend for its success

on premature theories or prejudices. If brightness, for example, were an important factor, it would appear among the differences between successful and unsuccessful students for a particular teacher. If it were not a significant characteristic for that teacher, then it would not appear. Then, too, the approach could be applied routinely, and would thus be more practical for schools.

On the other hand, the approach would have its limitations. We might very well miss types of students the teacher had not encountered in the past but who might profit from his instruction. And we would be very much at the mercy of the teacher's selection of past successful students—with no very clear assurance of what the teacher meant by "success," or of whether the teacher's idea of success in any way coincided with those of the students'.

In the progress report of the research at that time (June 2, 1959), we summarized our expectations as follows:

"The purpose of next year's experiments, of course, is to find out if our hunch is valid. The hypothesis is not that "teachable" classes will be more comfortable or congenial than the usual randomly selected classes (although this might turn out to be true) but rather that the students in the teachable classes will have less energy tied up in non-learning concerns and anxieties about interpersonal relationships, authority, sex identification and so on. Presumably if this is the case, then the students ought to be more able to put that energy into learning tasks and they ought to be able to learn more. This we

shall attempt to find out, using pre and post achievement tests. . . including some high achievers, may get little.

"There are, however, certain reservations that ought to be made, and which, if made properly, will tend to bolster the findings. The first reservation is that the differences between "teachable" and regular classes should be greatest for teachers whose method of teaching calls for interaction among pupils; it should be least, let us say, for a teacher who lectures all the time or whose class "discussions" are mostly perfunctory recitation periods. The second reservation is that differences will be greatest with teachers who challenge the class most; that is, the less the teacher expects of his classes, the less likelihood that one will perform any more or better than another. On the basis of observations during the year, we shall try to refine our general prediction of superiority of the teachable class to include an estimate of the magnitude of the differences to be expected.

The third reservation takes us into very large educational issues which go way beyond the scope of this experiment. These teachers were located in eight high schools and junior high schools (Arlington Heights, Hill Country, Lincoln, Nicolet, Forest Road, Hill Country, Mishawaka, and Blue Township) in Illinois, Wisconsin and Indiana. The grades taught ranged from VIII through XI, and the subjects were English, American literature, Social Studies, Geometry, Advanced Algebra, Biology, World History, and American History. (The data were incomplete for two of these teachers, so our report is based on the results with 13 teachers.) During the spring, the teachers asked for us 15 to 24 currently "successful" students and 9 to 20 "unsuccessful" students who were impression that some students who get low grades

nevertheless get a great deal from their classes whereas others, including some high achievers, may get little. It appears that achievement, as generally measured and testified to on report cards, does not tell the whole educational story. The part it doesn't tell has to do with the "meaning" of the information and principles to the individual student. It is probably this part of the learning outcome that is most influenced by the social milieu of the classroom; and it is this part which probably contributes to the child's character. In each case, we shall attempt to get data systematically for the purpose of forming an opinion about the likelihood the student is "getting something out of the class"—apart from what achievement tests show."

The Course of the Investigation

In the spring of 1960, 15 teachers agreed to participate in the experiment. These teachers were located in eight high schools and junior high schools (Arlington Heights, Niles Township, Lincolnway, Nicolet, Forest Road, Rich Township, Mishawaka, and Bloom Townships) in Illinois, Wisconsin and Indiana. The grades taught ranged from VIII through XI, and the subjects were English, American Literature, Social Studies, Geometry, Advanced Algebra, Biology, World History, and American History. (The data were incomplete for two of these teachers, so our report is based on the results with 13 teachers.)

During the spring, the teachers named for us 15 to 24 currently "successful" students and 0 to 20 "unsuccessful" students who were interviewed for from two to five hours by the observers on different

getting, respectively, "much" or "little" out of class—as judged by the teacher. These students were tested with the large assessment battery, which, on the basis of the earlier tryouts, had been reduced from 715 to 405 responses. In addition, all 1640 students coming up from the grade below and available to be in the teachers' next year's classes were tested. This number of students to select from ranged from 62 (Teacher #10) to 224 (Teacher #14).

During the summer, the responses of the successful and unsuccessful students were counted, and compared. Significantly different responses ($p \leq .1$, chi-squared test) were incorporated into a scoring key for each teacher. The tests of the other students in the available population were scored with this key, and the highest scoring students were selected to become the experimental class for that teacher. The control class for each teacher was selected from the remaining available students by the school officers, using their regular selection procedures.

During the academic year 1960-61, the thirty classes were studied in detail. Each class was observed from three to five times by a team of at least two observers. From one to three sessions in each class were tape-recorded, and the tape record analyzed and coded, statement-by-statement. Diagnostic conferences pooled the impressions of all the observers of each class. Ten Post Meeting Reaction sheets filled in by the students at the end of class sessions were selected randomly with respect to time from the larger number administered during the year. The students also took the Student Opinion Survey, Sociometrics, and Guess Who test during the spring of 1961. The teachers took the sociometrics, furnished grades, achievement records, and lesson plans. They also were interviewed for from two to five hours by the observers on different occasions.

During the spring, summer, and fall of 1960, the tremendous mass of data was coded, tabulated, significance-tested, and otherwise processed by the observer-researchers. This report was written during 1961

The Organization of This Report

We felt that if our hunch were substantiated we would have more claim on the attention of the reader than if it weren't. Accordingly, the first matter to be discussed is the educational results, Chapter 2.

The independent variable is the greater teachability of the students in the experimental classes, and this variable is responsible for most of the differences between the classes. Chapter 3 considers to what extent there is a common "teachability" factor, what it is composed of, and how greatly it varies among the teachers.

Since "teachability" is meaningful only in terms of a defined style or method of teaching, Chapter 4 describes the "general" style of the teachers, the differences in this general style caused by the general teachability factor, and the extent to which this general picture actually fits the 13 individual teachers.

The relationships among style of teaching, "teachability" of students, and results—differs from teacher to teacher and probably involves somewhat different dynamics. In Chapter 5 we study all the data on one teacher, and attempt to show what happened and to explain why. Chapter 5 is a long didactic case study of "teachability" at work.

Chapter 6 presents, briefly, the results of similar analyses of how teachability factors worked to produce differences within the pairs of classes of four other teachers: a "high-level" academic teacher, a

"person-oriented" teacher, a "technical-routine" teacher, and a "literary-appreciation" teacher.

Chapter 7 analyzes the changes, from the beginning to the end of the school year, in the attitudes, interests, values, etc., of teacher #14 and his experimental and control students.

Chapter 8 presents the conclusions about teachability grouping: for whom and under what conditions it works best; our reservations, or the dangers we see in it; and some practical alternative ways of getting teachable groups.

The Appendix contains our instruments: the assessment battery, the observation schedules, the questionnaires; and the detailed data on the teachers discussed in Chapter 6.

Notes and References for this Chapter

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16. These researches are reported in: Stock, D., and Thelen, H. A., Emotional Dynamics and Group Culture. New York: New York

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17. Thelen, op. cit., reference for first two sections.

18. Proposal for Research to the Commissioner of Education:

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of Students," Appendix A. Project SAE 7786, April, 1958.

19. This description of factors is quoted from Thelen, op. cit.,

Reference 15, pp. 122-125.

Empirically-Determined "Teachable" Types:

20. Reported in conversation with Professor J. W. Getzels.

Chapter 2

The Results of "Teachability" Grouping

"Grouping," or selection of students to be in a particular class with a particular teacher, was based on a simple universal observation: that each teacher finds some students more "teachable" than others. With these students he feels he does a better educational job; he is likely to be more at ease with them, to like them better, to believe that they respond better, to feel that in many ways his teaching is primarily "beamed" to them. These students have what it takes to make the teacher perceive them as "successful" in his class. The definition of this "something" probably is different from one teacher to the next, for each teacher makes somewhat different demands on the students, may have different feelings about what goals are really important, and certainly identifies differently with different students.

With these considerations in mind, we decided to try to give each teacher a class composed of "teachable" students, and to compare it with an "ordinary" class. We used 13 teachers so that there would be an adequate base for drawing generalizations. The independent variable, the difference "built-in" between the teachable ("experimental") class and the regular ("control") class, was created by our selection of students for the experimental classes; the control classes were selected by the "regular" procedures in each school. All other factors, such as time, method of teaching, teacher personality, etc., were either identical or subject only to "random variation." Both classes of each teacher were studied intensively and extensively for a full school year. We found some

differences and some similarities between experimental and control classes for each teacher. And the pattern of differences and similarities, especially those that are common to all 13 teachers, throw a good deal of light both on our particular method of grouping and on the general problem of grouping.

We think the first thing the reader would wish to know is whether our method of grouping accomplished anything, and if so, what. (Certainly that's our first question.) It is also a good idea to start at this point in order to find out what the rest of the report will want to explain.

Our general hypothesis was that giving each teacher a class full of students he could teach should result in better teaching. We also believed that it would make more difference to some teachers than to others, and we had some hunches about who would be most helped by our method of selecting his class. After all, the "teachability factor," the qualities that make the student successful in the classroom, differs from teacher to teacher, and enters differently into their interactions with the class. But the first point to establish is that a "teachability factor" exists, can be used to group students, and results in better teaching. Once this point is established we can then relax and talk about what this factor is in general, how it differs among teachers, and how it operates.

Assessment of Results

The results from a year of teaching are of several kinds.

First, each teacher gives the student a mark or "grade," and this represents the teacher's best over-all judgment of "what the student learned" during the year.

Second, typically, each student is tested by means of subject matter examinations. If the examination is given both at the beginning and end

of the year it is possible to say how large was the gain in whatever the examination measured. We will call this gain achievement. In some cases, the teacher's mark is based solely on achievement, but in most cases the teacher's mark takes other things into account as well. Most teachers believe that the educational values of classroom experience are by no means all measured by achievement tests. In the Palo Alto schools, for example, the teacher's mark is based on achievement test results (50%), judgments of "ability" (25%), and judgments of "motivation" (25%). Thus "achievement" represents only half of what the teacher's grade is supposed to take into account.

Third, it may be argued with some justice that to the extent a student is challenged, interested, and hard-working during each class activity he is becoming educated. In other words, the quality of classroom experiences ought to bear some relationship to what the student gets out of the experience. Questionnaires called Post-Meeting Reaction Sheets, administered immediately after a class session, can be interpreted to give us a rough idea of whether the day's experiences were involving, challenging, and apparently worthwhile to the student.

Fourth, more theoretically, it can be argued that the teacher's influence is extraordinarily great and has much to do with whether classroom experience will be oriented to learning, to self-protection, to approval-seeking, or to other goals, many of which are not very educative. Given one kind of teacher-pupil relationship we would predict that a great deal of educative learning may occur; given another sort of relationship, we would predict that little educative learning would occur. In this sense, we are not regarding teacher-pupil relationship as an educational outcome; but we are suggesting that it is a condition which helps confirm

and add reasonableness to findings about educational outcomes.

Fifth, it is possible to argue that each student is likely to have some courses which he finds exciting, challenging, etc.; and other courses that produce quite different feelings. Speaking generally, we would expect him certainly to make more effort in the one than the other; and insofar as effort relates to learning, we would expect him to learn more. Clearly, however, the student's global judgment of the course is much less good as a measure of educational results than the other measures described above. Nevertheless, differences in the way students in the experimental and control classes would rate their class against all their other classes would be interpretable in the light of other evidence, and would serve the purpose of helping the administrator and teacher assess the relative appeal of experimental and control methods in the course.

We shall present summaries of the evidence on these five points of comparison, and the reader may decide for himself how much importance to attach to the various findings.

The comparisons are of two sorts, and it may be helpful to explain these briefly now. In the first place, the average "teachability score" of the students is statistically significantly higher ($p \leq .01$) in the experimental than in the control classes. Therefore, as each experimental class is compared to the control class taught by the same teacher, it can be presumed that differences will reflect somehow the operation of the "teachability" factor.

In the second place, it is also possible to make comparisons within a single class. The class may be divided into halves, with one half

containing the students having higher scores and the other half lower scores on the teachability factor.

Thus we can compare the experimental class, having generally higher teachability scores with the control class; and we can also compare the high and low teachability students within each class. The trends should be the same in the two sorts of comparisons.

1. Teacher's Marks or Grades

and

2. Achievement Test Gains

Of the 13 teachers, 9 gave two grades, e.g., a grade for English and a separate grade for Social Studies. Thus there were 44 distributions of grades given among the 26 classes. In each class, comparisons were made of the grades received by the students having the top half of the teachability scores with those having the lower half of the scores. The difference between marks of A and B, B and C, etc., is numerically equal to 1.0.

Table 1

Teacher Grade versus High and Low
Teachability Students

Teachability	Number of Cases	Number of cases getting higher marks*	Average difference in marks
Upper half	44	35	.35
Lower half	44	6	.38

* In three cases, upper and lower halves got equal marks.

The finding is that the half of the class with higher teachability scores is $35/6 = 5.8$ times as likely on the average to get better grades from the teacher. The amount of the difference averages to about a third of a grade point.

Group gaining most in achievement:	Experimental Classes		Control Classes	
	High Teachable	Low Teachable	High Teachable	Low Teachable
Table 2 Achievement Test Gains versus High and Low Teachability Students				
	Teachability	Number of Tests	Group with higher gain	Amount of difference in gain (%)
High Teachable	Upper half	34	17	2.2
Low Teachable	Lower half	34	17	3.8
Neither				
Totals				

The finding is that the half of the class with the higher teachability scores is neither more nor less likely to make higher gains on achievement tests. In other words, whatever it is that is meant by "teachability" is not correlated with achievement as measured by gains on achievement tests, even though, as we just saw, teachability is quite closely related to ability to get better grades from the teacher.

In every case, the average teachability score of students in the experimental class is significantly higher than in the control class (mean score in the experimental class is 83.4 and in the control class 41.4 percent of possible). Hence the high and low teachable students in the two classes are distributed around different mean "levels"; and they represent different ranges of teachability. In Table 3, we compare the relationships between achievement gains and teachers' marks for high and low teachable students in the experimental classes and in the control classes.

Table 3

Comparison of Teachers' Grades and Achievement Gains for High and Low Teachable Students

Group gaining most in achievement:	Experimental Classes Groups having higher grades			Control Classes Groups having higher grades		
	High Teachable	Low Teachable	Neither	High Teachable	Low Teachable	Neither
High Teachable	6	1	0	3	0	1
Low Teachable	3	2	0	4	1	0
Neither	1	0	0	4	0	0
Totals	10	3	0	11	1	0

The findings are that in 10 experimental classes and 11 control classes the high teachable students received better marks than the low teachable students. The high teachable students in the experimental classes tended also to have higher achievement than the low teachables, whilst in the control classes, the high teachables have approximately the same achievement. The similarity of results entitles one to think of teachability (within the classroom of a particular teacher) as a personal attribute or ability which confers an edge on its possessor quite apart from its average level among the other students in the class.

Turning now to comparisons between classes rather than of low and high teachable students within classes, we would expect similar findings. Table 4 is similar to table 3, with experimental class and control class substituted for high teachable and low teachable, respectively.

Table 4
Comparison of Teachers' Grades and Achievement Gains
for Experimental and Control Classes

Class gaining most in achievement	Teachers' Marks					
	First Semester Higher Class			Final Higher Class		
	Experimental	Control	Neither	Experimental	Control	Neither
Experimental	2	0	0	5	0	0
Control	4	0	0	6	1	1
Totals	6	0	0	11	1	1

The findings are that in the six cases where teachers gave grades for the first semester, the experimental classes were higher, even though the control classes tend to have higher achievement scores. At the end of the year, all 13 teachers gave grades, and 11 experimental classes and one control class received the better marks.

Thus, no matter how we slice up the data, we get a quite consistent picture: the students with the higher "teachability" scores get higher grades, whether the comparison is between classes or within classes; and they are just as likely to get higher or lower gains on achievement tests. In short, when the teacher takes "everything" about the student's classroom experience into account, he consistently awards the palm to the students who, in his opinion, have meaningful experiences, regardless of whether they can show it in gains on achievement tests.

The differences, however, are not large. In only two cases is the grade difference between classes as large as one grade point. And the

differences in achievement test gains range from .1 to 7.8, with the median at 1.6%. The total gain ranges from -.3 to 42 points, with the median gain between 8 and 10 points. Thus the differences in median gains between two classes is 16 to 20% of the total gain in test scores. Our own impression is that these are not large differences, and that many of them could be discounted by some schools of statistical thought. The thing that is hard to get around, however, is the consistent tendencies shown in the data. How much practical importance the tendencies have varies from teacher to teacher and situation to situation, and will have to be considered among the details of each case.

3. Post Meeting Reaction Sheets - Pupil Satisfaction with Activities

On several occasions during the school year students filled out questionnaires at the end of the class meeting. The questionnaire is a check list consisting of eight items by which the student evaluated the session just completed. In most classes the check list was filled in ten times between September and December 1959, and for two or three additional sessions during May and June 1960. Students in the experimental and control classes checked it on the same days, and the activities of the classes are roughly comparable.

The following table indicates the number of days one class showed a higher mean difference of satisfaction than the other with respect to each of the 8 questionnaire items. Experimental classes are shown in the E columns, control classes in the C columns.

Table 5

Number of days each experimental and control class had higher satisfaction than the other on 8 questionnaire items

Teacher	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Number of Items More Often Preferred by: E C Neither
(7)	7 E	4 C	8 E	3 C	5 E	7 C	5 E	4 C	4 C
(9)	6 E	7 C	1 E	12 C	6 E	7 C	9 E	4 C	4 C
(10)	4 E	9 C	13 E	0 C	2 E	11 C	5 E	8 C	5 C
(12)	10 E	2 C	6 E	5 C	10 E	2 C	8 E	4 C	6 C
(6)	7 E	4 C	6 E	5 C	7 E	5 C	6 E	6 C	6 C
(1)	11 E	1 C	2 E	10 C	8 E	3 C	12 E	0 C	5 C
(13)	10 E	2 C	12 E	0 C	8 E	1 C	11 E	2 C	8 C
(14)	10 E	2 C	11 E	0 C	10 E	2 C	11 E	2 C	6 C
(5)	11 E	2 C	8 E	5 C	5 E	5 C	12 E	1 C	6 C
(4)	7 E	6 C	5 E	8 C	8 E	4 C	9 E	3 C	4 C
(3)	8 E	2 C	5 E	4 C	7 E	3 C	7 E	3 C	4 C
(8)	3 E	3 C	3 E	4 C	1 E	6 C	1 E	6 C	1 C
Number of classes E-9 C-2 preferring item ^a	8 E	4 C	7 E	4 C	9 E	3 C	9 E	3 C	5 C
Neither-1	0 E	0 C	1 E	1 C	0 E	0 C	1 E	0 C	0 C

^aFor teacher #2 the data are incomplete. This table summarizes comparisons among 12 pairs of classes

Unlike the achievement tests which were different for each pair of classes, the questions on the post-meeting reactions sheet were the same for all classes and for every administration. Hence we can generalize not only about the test as a whole but about each item.

From the right hand column of Table 6, we see that in 8 of the 12 pairs of control and experimental classes, the experimental class shows higher average mean "satisfaction" on 5 or more of the 8 items. From the bottom row, we see that 6 of the 8 items result in greater satisfaction for 7 to 9 of the experimental classes. Considering that the table tabulates mean scores—130 to 139 of them, depending on the item—we believe that the positive tendency is real and stable.

Within the table there are great variations from one pair of classes to the next, and these can be best understood by looking at all the data on each pair of classes. With regard to variations among items, items 6 and 8 deviate from the general performance, and the deviation is best understood by reading all 8 items and seeing in what ways 6 and 8 differ. The eight items, with a sentence of comment, are:

- (1) How did you feel this class meeting was today?

This item introduces the check list with an opportunity for the student to indicate his over-all reaction to the session. It is scaled from total dissatisfaction ("no good") to complete satisfaction ("excellent").

- (2) How often did you find yourself wanting to say things to the

class, but for one reason or another you did not actually say them?

This item delineates the student's perception of the limits on expression. The scale implies supportive opportunities for communication at one extreme ("never") to a maximum perception of restriction and threat

at the other ("very frequently").

- (3) How worthwhile to you was what you learned in class today?

Requires that the student assess his personal involvement with the task or goal of the session. This item is scaled from lack of meaning or commitment ("worthless; waste of time") to pointed personal significance ("highly meaningful; most worthwhile").

- (4) How often were the questions and comments of the students really understood and replied to fairly and helpfully?

The student is asked for his perception of the teacher's facility in interaction. Is he sensitive? Trustworthy? The item is scaled from total failure, or possibly absence of teacher's effort ("never") to highly successful efforts to be helpful ("very frequently").

- (5) How clearly did you understand exactly what the class was supposed to do today?

Was the definition of the task such that the student knew what was expected of him? Satisfaction ("perfectly") would indicate sufficient clarity for the student to work freely; ambiguity ("not at all") implies frustration and consequent dissatisfaction.

- (6) How difficult was the lesson today?

This item requires the student to compare his expectations for himself with the teacher's demands. Ideally, the teacher's timing and pacing should provide an optimal challenge, neither minimal ("too simple; baby stuff") nor maximally demanding ("very difficult; over my head"). There is some ambiguity in this item, as the student may conceivably feel most comfortable in a situation perceived as "easy." In scoring this item, the midpoint score on the scale (rather than top score) was considered best.

(7) What part of the class was really working on the lesson today?

The student is asked for his perception of the group's involvement in the task. Scored for an entire class, it indicates commitment to and satisfaction with the task ("everybody") ranging down to flight, play or other non-work activities ("almost nobody").

(8) How satisfied were you with the part you played in class today?

This item tests the student's ability and opportunity to meet his own role expectations in the classroom. Did he find a rewarding place for himself ("rather delighted and pleased") or did the situation provoke a sense of failure ("really disappointed or discouraged").

Item number 6 is odd in that there is no confident basis for deciding what rating along the scale corresponds to highest satisfaction. The decision to count the midpoint as most satisfactory is convenient, but has no empirical justification.

Item number 8 indexes satisfaction but it is difficult to evaluate it. Is satisfaction with one's own role a sign that the activity was unchallenging or that it was really worthwhile? How legitimate is satisfaction with oneself as an index to productivity of experience? In other words, what degree of satisfaction would reflect an educationally sound activity? The answer probably should differ among students. All we can say is that the control students more often claimed higher satisfaction with their own roles—that's what the data show—but we do not feel justified in concluding from this that the activities were either more or less worthwhile or educationally sound.

4. Interpersonal Relationships

Interpersonal relationships were assessed by means of sociometric ratings made during the last two months of the school year. Each student rated each other student and the teacher in his class; in addition, the teacher rated each of his students. The ratings were on a five point scale of liking for two different kinds of association with the person: "work with" and "chat with." Presumably, the "chat with" relationship is voluntary and friendly while "work with" relationship is oriented to effectiveness in work.

In view of the higher grades, coupled with no greater achievement in the experimental classes, one's first guess would be that the teacher probably likes the students in his experimental classes more than in his control classes. Table 6 presents the average rating given by the teacher to all the students in each of his two classes.

Table 6

Teacher Ratings of Students (Class means)

Class of Students Most Preferred by the Teacher to

Chat with:	Work with:		
	Experimental	Control	Total
Experimental	6	3	9
Control	3	1	4
Total	9	4	

The findings are that 9 experimental classes are preferred by the teachers for "working with" and "chatting with." There is, however, some discrimination being exercised in these preferences, for 6 of the thirteen teachers prefer one class to "work with" and the other to "chat with." If the liking of the teacher for his students accounts for the higher grades, then three of the teachers assume that the class is there to work and not "chat;" three more assume it is there to "chat" but not work; and the other seven assume that both are important.

The data show that the teacher tends to prefer his experimental class, and that he gives it higher grades. If these two facts are directly related (e.g., one is the cause of the other), then it would be reasonable to suppose that the more the teacher likes the class the higher the grades he will assign to it. Table 7 shows the grade superiority of the 6 classes most and least preferred by the teacher to work with and to chat with:

Table 7
Relationships between Teacher Preference and Grade Superiority

Rank Order of Grade Superiority*	Rank Order of Teacher Preference to:			
	Work With		Chat With	
	1 - 6	8 - 13	1 - 6	8 - 13
1 - 6	3	3	3	3
8 - 13	3	3	3	3

* The middle-ranking class (rank 7) is omitted in order to have upper and lower groups the same size.

Table 8 shows that the amount of grade superiority bears zero relationship to the amount of the teacher's preference for working with and chatting with the students. Half of the 6 classes most preferred to work with are among the 6 showing greater grade superiority whereas the other half have

lower grade superiority. Similarly no tendency is found for the classes most preferred for chatting with to have the more superior grades.

It is reasonable that the teachers would tend to prefer their experimental classes: the teachers, after all, participated in selecting students of a sort known from past experience to be "successful" in their classes. The experimental students were selected to facilitate the classroom interaction and activities of the teacher, and such students should be viewed affirmatively by the teachers. But what of the students' preferences for the teacher? How do students selected by the teacher to facilitate his teaching feel about him? Do they reciprocate his preference for them?

Table 8 shows how the students in the two classes of each teacher rated him. The comparisons are made in two ways: (a) the mean or average rating given by all the students in each class; and (b) the number of students in each class rating the teacher first choice to work with and to chat with.

Table 8

Ratings of the Teacher by the Students
In His Two Classes

Chat With	Class of Students Preferring the Teacher to (Mean Ratings)			(Number of First Choices)		
	Work With			Work With		
	Experi- mental	Control	Total	Experi- mental	Control	Total
Experimental	4	0	4	5	1	6
Control	0	9	9	2	5	7
Total	4	9		7	6	

The findings are that the "average" student in 9 control classes tends to prefer the teacher more both to work with and to chat with.

At the same time, about equal numbers of control and experimental classes contain a greater number of students who rate the teacher first choice to work with and to chat with. It follows that the range of liking for the teacher is greater in the experimental classes.

These findings call for explanation, but we will have to know more about the classes to have much confidence in any explanation. But at this point, let us be aware of some possibilities:

(a) There may be a bit of personal exploitation involved. That is, the teacher has selected students that he can successfully teach, and these are students who can meet the teacher's needs (to put it bluntly). To the extent that the teacher's needs are met through his participation in activities that also meet needs of the students, there is no exploitation involved. But if the teacher has needs that cannot be so channeled, and especially if these needs are somewhat threatening to the students, then one might expect the students to feel some resentment toward the teacher. They go ahead and help meet the teacher's needs (after all, that's partly the reason they were selected); but they may not be much attracted toward him.

There is some observational information that supports this kind of explanation, and we shall consider it in connection with our case studies. In anticipation, however, one teacher tended to prefer and establish a joking relationship to the students. Most of the jokes were at the expense of students. The students would laugh at the jokes, but they would also cringe. And they tended to perceive that they had a good time and they liked each other very much; yet they also did not care for the teacher. At the same time, the teacher considered the class to be one of the best he ever had, and he strongly preferred it over his control class.

(b) A second explanation, suggested by Dan Katz, assumes that the experimental classes were more productive and work oriented—as indeed they tended to be. In this case, one would expect standards of evaluation to be more explicit, higher, and more controlling of activities. The existence of these standards would provide criteria for judging, and would make it easier for the students to distinguish between the teacher's role as a teacher and his personal role as an individual. Hence they could be generally more positive about the class and yet less "positive" about the teacher. Professor Katz suggested that the development of such standards often tends to create heterogeneity in the group: for the standards to develop and to be enforced, a good number of students must "go along" with them; and presumably these would be students who could identify with and cooperate with the teacher. At the same time, there would be other students who simply construed the higher standards as being more demanding, and, although socially cooperative, these students may very well remain psychically uninvolved in the developments, and they would not feel especially positive toward the teacher.

It seems to us that these two explanations are consistent with each other, and that they come close to portraying the situation as it actually existed. Some indication of how generally this situation occurred may be obtained by considering the reciprocity of liking between teacher and class. Let us assume that A tends to like B if B helps meet A's personal needs and vice versa. In that case the data of Table 6 show that 9 experimental classes and 4 control classes were superior to their counterparts in meeting the teachers' needs. At the same time, Table 8 shows that the teacher did a better job of meeting personal "Psychic" needs in 4 of the experimental classes that did not prefer him; and 5 control classes who

expect the students to be drawn together through mutual identification in preferred the teacher were not preferred by him. But that is not the entire picture, for it is possible that not all 4 of the experimental classes which preferred the teacher were among the 9 he preferred. Table 9 presents the data on this point.

Table 9

Mean Ratings by Teacher and Class
of Each Other

Class of Students Most Preferring Teacher	Class of Students Preferred by Teacher to					
	Work with:			Chat with:		
	Experi- mental	Control	Total	Experi- mental	Control	Total
Experimental	3	1	4	2	2	4
Control	6	3	9	7	2	9
Total	9	4		9	4	

The findings are that three of the 9 experimental classes and 3 of the 4 control classes preferred by the teacher to work with also prefer him. Thus with respect to work with, there is reciprocity in 6 of the 13 cases. Of the 9 experimental and 4 control classes preferred by the teacher to chat with, four reciprocate the feeling. The fact that there appears to be less reciprocity with respect to the more personal activity (chat with) is in line with the reasoning above.

What about the interpersonal feelings among the students? Several lines of reasoning would lead one to expect more cohesion (more positive interpersonal choices) in the experimental groups. First, if there is some sense of being exploited, then, unless it is too dangerous, one would

expect the students to be drawn together through mutual identification in their common plight. Second, there should be a greater communality of interest among the "teachable" students because they were selected from the same image. Third, if the experimental groups are more productive (as already implied by higher grades) then their members may be more actively cooperative. On the other hand, less cohesion might be expected if the teacher has enforced psychic demands that split the group, or if the teachable students are all alike and in need of some other "type" to complement their capabilities, or if the group is frustrated by having nothing to do (no common purposes which would provide a rationale for interdependence).

Table 10 presents the data.

Table 10

Mean Ratings by Students of Each Other

Class Containing the Higher Means for

Chat with:	Work with:		
	Experimental	Control	Total
Experimental	8	3	11
Control	0	2	2
Total	8	5	

The findings are that of the thirteen comparisons, 8 experimental classes and 2 control classes choose their members more strongly both for work with and chat with. Eleven experimental groups are higher for chat with, and 8 for work with. The tendency, then, is for the experimental

classes to be the more cohesive, and for this cohesiveness to be due more to interpersonal "psychic" elements than to social cooperative elements. In short, the experimental class tends to be a class with greater solidarity—a conclusion which is further substantiated by the evidence presented in chapter three.

5. Students' Over-all Ratings of the Classes

During the last few weeks of the school year, the students were presented with 11 scales and asked to locate each of their courses along each scale. The scales were:

(1) In general, how meaningful and rewarding is each of your classes?

not at all _____ completely

(6) To what extent does each class further your plans for things you want to do after you leave high school?

not at all _____ completely

(7) In what ways have each of these classes opened new interests or things for you to do?

no ways at all _____ lots of ways

(8) What per cent of the time in each class is spent on activities which personally you enjoy?

none of the time _____ all of the time

(2) To what extent does each class make use of subject materials of the sort you would like to study or work with next year?

not at all completely

(3) To what extent does each of your classes deal with things that are interesting to talk about outside of class?

hardly ever most of the time

(4) To what extent is each of your classes a group of students you would like to work with again next year?

not at all completely

(5) To what extent are you willing to do the work required in each of your classes?

not at all completely

(6) To what extent does each class further your plans for things you want to do after you leave high school?

not at all completely

(7) In what ways have each of these classes opened new interests or things for you to do?

no ways at all lots of ways

(8) What per cent of the time in each class is spent on activities which personally you enjoy?

none of the time all of the time

Table 11

(9) To what extent does each class have a teacher with whom you would like to work again next year?

would not
like at all

would like
completely

Teacher	(10) To what extent do you look forward to going to each of these classes?										
01	-	-	+	-	+	0	-	0	-	2	3
02	0	0	-	0	0	0	-	0	0	0	4
03	+	0	-	0	+	0	-	0	-	0	4
04	+	+	+	+	+	0	+	+	+	+	1
05	+	+	+	+	+	0	+	+	+	+	1
06	+	+	+	+	+	0	+	+	+	+	1
07	+	+	+	+	+	0	+	+	+	+	1
08	+	+	+	+	+	0	+	+	+	+	1
09	+	+	+	+	+	0	+	+	+	+	1
10	+	+	+	+	+	0	+	+	+	+	1
11	+	+	+	+	+	0	+	+	+	+	1
12	+	+	+	+	+	0	+	+	+	+	1
13	+	+	+	+	+	0	+	+	+	+	1
14	+	+	+	+	+	0	+	+	+	+	1
Total +	10	10	10	10	10	0	10	10	10	10	10
Total -	0	0	0	0	0	0	0	0	0	0	0
Total 0	0	0	0	0	0	0	0	0	0	0	0

not
at all

completely

(11) To what extent have each of the classes given you opportunity to practice or try out some special skill or talent which you have?

little or no
opportunity

lots of
opportunity

The mean ranks assigned by the students in the experimental classes compared to all their other classes were calculated and compared to the mean ranks assigned by students in the corresponding control classes. The ranks were then compared. In Table 11, a + sign means that the rank of the experimental class was higher than the rank of the corresponding control class. A - sign means it was lower, and a 0 means the ranks were the same. The right hand columns show the number of scales (or items) favoring (or otherwise) the experimental group over the control group for each teacher. The bottom rows show for each item the number of comparisons in which the item favored (or otherwise) the experimental group.

Table 11 shows that the pairs of control and experimental classes of the various teachers performed very differently, but it established an overall trend. Questions 2 and 7 show the most significant differences between

Table 11

The scales on which the students in the experimental classes ranked their class higher (+), lower (-), or the same (0) as the students in the control classes ranked their class

Teacher	Item											Total		
	1	2	3	4	5	6	7	8	9	10	11	+	-	0
01	0	0	-	-	+	-	+	0	-	0	-	2	5	4
02	0	0	-	0	0	-	-	0	0	-	0	0	4	7
03	0	0	+	0	-	0	+	-	0	-	-	2	4	5
04	-	+	0	-	+	0	-	+	+	0	-	4	4	3
05	+	+	0	+	+	+	+	+	0	+	+	9	0	2
06	0	+	+	+	+	0	+	-	+	+	+	8	1	2
07	-	-	0	-	0	-	-	+	-	0	+	2	6	3
08	-	-	+	+	-	-	-	-	-	-	-	2	8	1
09	+	-	0	-	-	+	+	0	0	0	0	3	3	5
10	-	-	0	0	0	+	0	0	-	-	-	1	5	5
11	0	-	-	+	+	+	+	0	+	-	+	6	3	2
12	0	-	+	+	+	-	0	-	-	+	0	4	4	3
13	+	+	-	0	-	0	+	0	0	0	-	3	3	5
14	0	-	+	+	0	0	+	-	0	0	0	3	2	6
Total + =	3	4	5	6	6	4	8	3	3	3	4			
Total - =	4	7	4	4	4	5	4	5	5	5	5			
Total 0 =	7	3	5	4	4	5	2	6	6	6	5			

Table 11 shows that the pairs of control and experimental classes of the various teachers performed very differently, but it establishes no over-all trends. Questions 2 and 7 show the most significant differences between

all the control and all the experimental classes. Question 2 elicits the tendency of control classes, more than experimental, to feel that their classes have made use "of subject materials of the sort you would like to study or work with next year." Question 7 elicits the tendency of experimental classes, more than control, to feel that the experimental classes "opened new interests or things for you to do."

It appears that the control classes got more satisfaction and had more confidence in the feeling that they were dealing with the orthodox subject materials whereas the experimental classes felt more stimulated by new personal possibilities. Both these findings are in line (theoretically) with the earlier implication (from interpersonal relations) of a "freer climate" in the experimental groups. It also suggests

that the "more meaningful experience" communicated to the teacher as "learning more."

Summary of Differences Attributed to the Teachability Factor

1. The basis of the teachability factor was comparison of students each teacher thought were "getting a great deal out of class" with their opposites. The traits that distinguish the two lists of students offered by each teacher were lumped together under the name Teachability Factor. To the extent that we managed to load the experimental class with students higher on this factor, the teacher should perceive the experimental class as more teachable. And should give its members higher marks. And did.

2. The teachability factor is found to bear no relationship to whatever it is that accounts for gains on achievement tests. A positive or negative relationship might exist for any one particular teacher, but over 13 teachers it averages out. Thus teachability is not necessarily, in general, connected to cognitive factors, such as IQ and past achievement

scores. The implication is that a teachable class is not necessarily a "high ability" class and, on the other hand, a homogeneous high ability class is not necessarily "teachable." Both depend on the teacher. Ruth Ekstrom's survey of all published reports of "ability grouping" versus regular heterogeneous grouping bears this out: either is equally likely to achieve better results, depending on the teacher.

3. The discovery of greater satisfaction of the teachable students with classroom activities clearly accords with the notion that they are having more "meaningful" experience. It also shows that the teachers by and large were accurate in their earlier selection of the students "getting a lot out of class;" and that the selection procedure we used did succeed in identifying students fitting this model. It also suggests that the "more meaningful experience" communicates to the teacher as "learning more," and hence the higher grades.

4. The friendlier feelings of the teachable students for each other and of their teacher for them is in line with other research and training studies which associate good interpersonal relations with personally meaningful experience. The experimental classes are more cohesive, and they may also be more oriented to work.

5. The ratings by the students of their own class as compared to other classes they were in during the same school year turns up no differences in tendencies that hold over all 13 pairs of classes. The two most suggestive results support the idea that the experimental classes had more personally meaningful experience and the control classes had more "orthodox" experience. But the classes did not achieve different "reputations" within the school (even though in experiments this happens more often than not).

On the whole, then, we interpret the results to show that the teachable classes were more teachable, with better feelings of students toward each other; with the feeling that activities were more satisfying and interest-provoking; and with the teacher testifying that the experience of the students was more educational. At the same time, the students did no better on achievement tests, did not tend to think of their class as unusually attractive as compared with their other classes, and did not have more personal liking for their teacher.

We conclude that, judging by the results, the word Teachability is precisely correct for the name of whatever bundle of characteristics biased the selection of students for the experimental class.

It is not a single cut and dried factor. Nevertheless we would expect it to contain some elements in common for many teachers. The number of common elements would be insufficient to define teachable children for two different teachers because the common elements obviously could not take into account real and significant differences which reflect differences between the personalities and methods of the two teachers. That the common elements are few, however, is generalizing that mark the "successful" or teachable child in the range of teaching situations we studied. Just as our 13 teachers have common elements in their teaching and achieved high results in common in our experiment, so the teachable classes have some characteristics in common that are different from those of the control classes.

Assessment of Teachability

The data for describing the similarity among the teachability factors of the 13 teachers are responses on our 405-item Assessment Battery (see

Chapter 3

The Teachability Factor

Thirteen teachers each selected students whom they judged to have gotten "most out of class" and "least out of class." The former provided the models we used later in selecting students for the "teachable" (experimental) classes. By comparing the two kinds of students, more and less "teachable," we can find a pattern of differences. This pattern is what we mean by the "teachability" factor.

The teachability factor is not necessarily composed of the same pattern of traits, attitudes, etc., for the students of each teacher. It is not a single cut and dried factor. Nevertheless we would expect it to contain some elements in common for many teachers. The number of common elements would be insufficient to define teachable children for two different teachers because the common elements obviously could not take into account real and significant differences which reflect differences between the personalities and methods of the two teachers. What the common elements can define, however, is general tendencies that mark the "successful" or teachable child in the range of teaching situations we studied. Just as our 13 teachers have common elements in their teaching and achieved many results in common in our experiment, so the teachable classes have some characteristics in common that are different from those of the control classes.

Assessment of Teachability

The data for describing the commonality among the teachability factors of the 13 teachers are responses on our 405-item Assessment Battery (see

appendix). The several kinds of evidence from the assessment battery contribute to the picture of how "teachable" students tend to view the world of the classroom, themselves, the teacher, and their classmates:

(1) We asked the students to rate the frequency of occurrence of 48 suggested possible disadvantages when they work alone, with the teacher, with a few other students (e.g., subgroup or committee), and with the class (see appendix, "Ways of Doing Things"). For the purpose of counting responses, the 5-point frequency scale was divided into halves, with the top half representing nearly complete denial that a certain disadvantage (item) ever occurs.

(2) We listed 40 specific activities that might occur in the classroom, and we asked the students to rate on a 5-point scale how much they preferred each activity (see appendix, "Classroom Activities"). Their responses are divided into two categories: high preference (top ratings) and low preference (bottom ratings).

(3) We listed 50 kinds of roles or acts in which a student might "participate," and asked them to rate their preferences for these on a 5-point scale (see appendix, "Participation"). Their responses were further categorized as indicating high or low preference.

(4) We proposed 7 topic words or concepts (e.g., Boy, Myself, Having Power), and then offered for each such concept ten identical scales anchored at the two ends by a pair of words (e.g., wet-dry, pretty-ugly). The students were asked to rate each concept along these ten "dimensions" (see appendix, "Semantic Differential"). We counted the number of responses in each half of each scale (e.g., more "wet" than "dry"). This is a more or less standard type of word association test.

(5) We described, in a sentence or phrase, 50 situations that occur in classrooms, and asked the students to check which of two responses best approximated their ideas, feelings, or actions in such a situation (see appendix, "Situations"). We counted how many students checked each alternative.

(6) We described, in a paragraph, each of six "types" of teachers, and asked the students to rank-order these types with respect to (a) how typical they are of teachers in general, (b) how comfortable the student feels in a class with each type, and (c) how well the student learns from each type (see appendix, "Teacher Description"). We classified responses as top or bottom, depending on whether the rating of a paragraph was among the top or bottom three ratings, respectively.

(7) We listed 60 statements of "values" or generalized ways of behaving to which persons might aspire. Each student was asked to rate, on a 9-point scale, how "important" each such aspiration was to him (see appendix, pp. 16-18 of the assessment battery). The scale was divided in half, and we counted the number of students rating each item "positively" (top half of the "importance" scale) and negatively.

(8) We listed 24 decisions that someone has to make in the classroom, and asked the students to check who should make each one. Choices were: the teacher, you (the student), the class-as-a-whole, a small group or committee, and you plus the teacher. Each response was counted.

(9) Another section containing 45 items contributed no items to the general factor. Accordingly, the assessment battery is considered in what follows to contain only 360 items. With respect to a particular item, 4 out of the thirteen teachable groups would by "chance"

be significantly higher than their corresponding control groups only once

Our task with the data was to devise a procedure for selecting from the battery the items that discriminate between high and low teachable students. The procedure involved first identifying the items that discriminated for the students of each teacher, and then counting the number of teachers for whom each item discriminated.

The selection of items discriminating for each teacher was done empirically by counting how many high and low teachable students selected each of the responses. Then we applied a statistical screen (chi-squared test, cut-off at the .1 level) to select the responses for which the differences between high and low teachable groups were large enough to give us confidence that they "really" existed—that they were not the result of "accident" or chance.

The index of discrimination, telling us how importantly each item discriminates for all the teachers, is the algebraic sum of four figures based on means: (a) the number of high teachable groups that made the response; (b) the number of high teachable groups that rejected the response (by making an opposite response; (c) the number of low teachable groups that made the response; and (d) the number of low teachable groups that rejected the response (by making an opposite response). The best discrimination would occur when all the high teachable groups made the response and all the low teachable groups rejected the response. In this case, a and d would each be 13, and b and c would each be zero. The index, then, is $a - b - c + d$.

In the following table, we display the 66 most discriminating items arranged in order of their discrimination indices. With respect to a particular item, 4 out of the thirteen teachable groups would by "chance"

be significantly higher than their corresponding control groups only once out of 33 times. Five would be higher once out of 160 times; and 6 would be higher once out of 825 times. The likelihood that 7 or more groups would be higher by "chance" is practically zero. (Incidentally, these estimates are generous to "chance," for they are based on the least discriminating items (.1 level) in the table.

The items appearing at the top of the table are most common to the differences between all pairs of high and low teachable groups. As we go down the table, the items are less discriminating for the whole population of groups, and the figures show the number of groups for which they do discriminate. It is not impossible that the same class could contain both a lesser tendency and its opposite; or that an item could be answered one way by one teachable class and the opposite way by another. Such occurrences are indicated by the four figures ahead of each item in the table.

Item No.	Discriminating Index	High Teachable Groups	Low Teachable Groups	Item	Response
1	14	10	0	When doing things by myself I find it	Denial
2	11	7	0	basic principles are explained	
3	11	7	0	Be grateful and understanding in my	Important
4	10	7	0	teacher during class work	
5	10	8	0	When I do something with a teacher I get	Denial
6	10	7	0	When doing things with a teacher I feel	Denial
				very little enjoyment	
7	10	7	0	Being one of the more active persons	Prefer
				during a typical class discussion	
8	10	7	0	While doing things with a few other	Denial
				students I forget ideas that have	
				been explained	
9	9	7	0	When doing things with a few other	Denial
				students I find it hard to consider	
				ideas	
10	9	7	0	Have a conference with the teacher	Prefer
				concerning your progress in class	
11	9	7	0	When doing something with a teacher	Denial
				I waste time	
12	9	7	0	I feel very little enjoyment when	Denial
				doing things by myself	

Table 12

The Sixty-six Items Best Discriminating Between
High and Low "Teachable" Students

Item No.	Discrimi- nation index	Teachable				Item	Teachability Response
		High		Low			
		+	-	+	-		
1	14	10	0	0	4	When doing things by myself I find it hard to consider ideas	Denial
2	11	8	0	0	3	Have teacher lead a discussion in which basic principles are explained	Prefer
3	11	7	0	0	4	Be grateful and undemanding in my acceptance of life experience	Important (Accept)
4	10	9	0	0	1	Get individual help and instruction from teacher during class work	Prefer
5	10	8	0	0	2	When I do something with a teacher I get confused in my work	Denial
6	10	7	0	0	3	When doing things with a teacher I feel very little enjoyment	Denial
7	10	7	0	0	3	Being one of the more active persons during a lively class discussion	Prefer
8	10	7	0	0	3	While doing things with a few other students I forget ideas that have been explained	Denial
9	9	7	0	0	2	When doing things with a few other students I find it hard to consider ideas	Denial
10	9	7	0	0	2	Have a conference with the teacher concerning your progress in class	Prefer
11	9	7	0	0	2	When doing something with a teacher I waste time	Denial
12	9	7	0	0	2	I feel very little enjoyment when doing things by myself	Denial

Table 12(Continued)

Item No.	Discrimination index	Teachable				Item	Teachability Response
		High		Low			
		+	-	+	-		
13	9	7	1	0	3	Pointing out good ideas and attacking bad ideas offered during class discussion	Prefer
14	9	5	0	0	4	Prepare on your own to make a report to the class	Prefer
15	8	7	0	0	1	When doing things as a member of the class I get into trouble with others	Denial
16	8	7	0	0	1	When I have work to do with a teacher I don't feel like getting started	Denial
17	8	7	0	0	1	When talking with a teacher I lose the thread of conversation	Denial
18	8	7	1	0	2	Plunge courageously into the challenges of life	Important (Accept)
19	8	6	0	0	2	"Myself" is more "good" than "bad."	Association
20	8	6	0	0	2	When doing things with a few other students I get confused in my work	Denial
21	8	6	0	1	3	When doing something with a teacher I feel difficulty asking for help	Denial
22	8	5	0	0	3	Study basic course content as a member of a small group of students	Prefer
23	8	5	0	0	3	When doing things as a member of a class I have difficulty expressing my feelings	Denial
24	8	5	0	0	3	Be willing to make sacrifices for the welfare of others	Important (Accept)
25	7	7	1	1	2	Thinking about an argument you might use to persuade others	Prefer
26	7	6	0	0	1	When doing things with a teacher I become upset easily	Denial

Table 12 (Continued)

Item No.	Discrimination index	Teachable				Item	Teachability Response
		High		Low			
		+	-	+	-		
27	7	6	0	0	1	When discussing with the teacher I lose interest in ideas	Denial
28	7	6	0	0	1	When doing something with the teacher I get confused in my thinking	Denial
29	7	6	1	0	2	When doing things by myself I lose interest in ideas	Denial
30	6	7	1	1	1	Be aware of and understand my innermost thoughts	Important (Accept)
31	6	6	0	0	0	Perform a demonstration or experiment for the class	Prefer
32	6	6	0	0	0	Work hard to attain the good things of life honestly	Important (Accept)
33	6	6	1	0	1	When doing things as a member of a class I learn very little for my work efforts	Denial
34	6	5	0	0	1	"Myself" is more "safe" than "dangerous"	Association
35	6	5	0	0	1	When doing things with a few other students, I get confused in my thinking	Denial
36	6	5	0	0	1	"Being popular" is more "good" than "bad"	Association
37	6	4	0	0	2	When the group agreed it needed more information, I: A) Described my feelings; B) wasn't sure I wanted to discuss my feelings	A-accept
38	6	4	0	0	2	Use the wisdom of the past in order to make a better future	Important (Accept)
39	5	6	1	1	1	"Being popular" is more "tight" than "loose."	Association

Table 12(Continued)

Item No.	Discrimination index	Teachable				Item	Teachability Response
		High		Low			
		+	-	+	-		
40	3	6	2	0	1	Reading a story in which the author describes the innermost private feelings of his characters	Prefer
41	3	6	0	1	0	"Having power" is more "big" than "little"	Association
42	3	6	0	1	0	"Boy" is more "strong" than "weak"	Association
43	3	5	0	0	0	"Girl" is more "pretty" than "ugly"	Association
44	3	5	0	0	0	Live a moral life of high ideals	Important (Accept)
45	3	5	0	0	0	Do things actively and with enthusiasm	Important (Accept)
46	3	5	0	0	0	Who should decide: Whether you are making satisfactory progress?	You plus teacher
47	3	5	0	1	1	"Boy" is more "new" than "old"	Association
48	3	5	1	0	1	Have confidence in my personal strength and ability to do things on my own	Important (Accept)
49	3	4	0	0	1	Most comfortable with "Planning type" teacher	Prefer
50	3	4	0	1	2	Try always to act in a socially acceptable manner	Important (Accept)
51	3	4	1	0	2	Live a life of service to others	Important (Accept)
52	4	5	0	0	1	Live a refined and well-mannered life	Important (Reject)
53	4	5	1	0	0	"Having power" is more "tight" than "loose"	Association
54	4	5	0	1	0	Learn most from "Expert type" teacher	Prefer

Table 12 (Continued)

Item No.	Discrimination index	Teachable				Item	Teachability Response
		High		Low			
		+	-	+	-		
55	4	5	0	1	0	Who should decide: Whether your project group should meet after school?	Committee
56	4	4	0	1	1	Develop understanding of others through self-awareness	Important (Accept)
57	4	4	0	0	0	When Henry was annoyed, Ray: A) Thought of a way to explain; B) Realized how he felt	A
58	4	4	0	0	0	Most comfortable with "Traditional-professional type" teacher	Prefer
59	4	4	0	0	0	Learn most from "traditional-professional type" teacher	Prefer
60	4	4	0	0	0	Who should decide: When you will come in for a conference with the teacher?	You plus teacher
61	4	4	0	0	0	Who should decide: How good a job the teacher did today?	Class
62	4	4	0	0	0	Who should decide: Whether it is all right to ask questions to end someone's boring report?	Teacher
63	4	4	0	0	0	Who should decide: To what extent the behavior of another student is out of line?	Teacher
64	4	3	0	0	1	When Hal felt hostile to the group, he: A) Wished he would not have to come to the meeting; B) was glad that Bob felt the same way.	A
65	4	3	1	0	2	Learn most from "Authoritarian type" teacher	Prefer
66	4	1	3	2	0	When Glenn bawled me out, I: A) Lost interest in what we were supposed to be doing; B) thought that some of his ideas would be useful	B

The task of interpreting the data may be approached in several different ways, and so we present the data and invite the reader to employ his own way. What we wish to find out is whether there are any central "themes" which are characteristic of "teachability." We want to know what these themes are, how consistently they are supported by all the items, what range of nuances exist, and what kinds of situations elicit these themes.

Our procedure will be (1) to see what general tendencies are found as we go from top to bottom of the table; (2) to select the most discriminating items as "keynote" items; and (3) to then see what light the rest of the items throw on the keynote themes.

1. Tendencies in the Table of Discriminating Items

To us, the most striking shifts as one goes down the table are in the kinds of items. Thus, in the discrimination range from 14 through 7, 39% of the items all come from the same test. In this test the student is asked to check how often (on a scale from "frequently" to "never") various "disadvantages" occur. The top half of the discrimination range, then, portrays the most discriminating behavior as denial that one ever is uncomfortable, confused, forgetful, etc. The more "teachable" students either are in fact more "adequate" in a wide range of situations involving the teacher, class, a few others or no others—or they simply want us to think so. Their greatest commonality is the image of adequacy that they project in these statements about themselves.

Also, within the top range of discrimination (14 through 7) 24% of the items are judgments of "worthwhileness" of classroom activities. Such judgments, of activities set up by someone else and external to one's self,

do call for little defense of one's self-concept, and we would expect these judgments to be closer to actual observed behavior. If these items are consistent with the "denial" items we will feel more confident that the denials express what the students feel rather than what they think they ought to feel. In other words, the activity items may enable us to decide whether the more teachable students are alike in holding the same stereotypes about a "good" student or whether they are alike in having similar feelings about working alone and with others. Either finding would say something about "teachable" students, but the two findings would suggest quite different degrees of "conformity."

Moving down to the discrimination range of 6 and 5, the character of the discriminating items changes. In this range, 36% of the items are judgments of the "importance" of certain "values" or aspirations, and, again, one must judge whether the responses are stereotypic or whether they truly represent the child's actual preferences. Interestingly, 32% of the items in this same range are word associations; and these are believed to be about as "tamper-proof" as items can be. Thus the two sorts of items, representing the opposites of abstract-verbal and subconscious-associative behaviors, may serve to check each other.

Finally, moving to the lowest range, with discrimination index of 4, the items again shift in character, with 80% of them quite possibly representing the results of specific experiences in classrooms (as distinguished from ethical and socio-cultural norms and values). Thus the most frequent items tell who in the classroom "should" make certain decisions, what sort of teacher the student finds most comfortable and effective, and how the student would respond to certain interpersonal stresses. The closeness of these items to experience probably also

explains their lesser commonality, for it is with respect to these items that different teachers' ideas of teachability would be expected to make the most difference. The "behavioral level" here represented should be consistent with the more general levels in the upper part of the table, but would be expected to represent less of the picture: other behaviors, equally consistent, could exist too.

2. Keynote Items or Themes

Let us now consider the possibility of major "themes" within the set of discriminating items. We would reason that of the 360 items in the battery it is not unlikely that one or two would very directly represent something quite central in teachability; they would, in effect, be "anchor" or keynote items which would give us the best cues for organizing the other items into a coherent picture.

The top item, number 1, is strong denial of "When doing things by myself I find it hard to consider ideas." The student is denying that he must depend on the thinking of others; he is asserting confidence in his ability to think by himself. To the extent that thinking by oneself is a central requirement in the classroom the self-confidence here expressed may be a dominant attitude. It remains to judge whether the student's performance is likely to be consistent with this theme.

The second highest discriminating item, number 2, judges the activity "Have teacher lead a discussion in which basic principles are explained." Teachable students judge this activity as very worthwhile. We note that it is intellectually oriented, accepts the teacher as an expert, and provides for interaction among the students and teacher.

The third item, number 3, is an expression of "value" or aspiration:

"Be grateful and undemanding in my acceptance of life experience." An item at this level of abstraction is susceptible to somewhat conflicting interpretations—which is one reason why we have a lot of additional items on the test. Generally speaking, one can see in this item a "goody-goody" quality of submissiveness or he can see an optimistic acceptance of reality—or both. The self-confidence theme of the first item disposes us to the "reality" interpretation of this item. We shall propose, subject to the evidence of the other items, that the student is here saying "let life come to me; I shan't resist it, and it is so good that it will reward me." Or, in terms of the first theme, "I expect to be able to cope with whatever comes."

Do the other items spell out and substantiate these themes of self-confidence, adequacy, and reality-orientedness, or do they support an impression of weakness, defensiveness, submissiveness, and possibly hypocrisy?

3. The Elaboration of the Themes

It is interesting that five of the eleven next most common items (discrimination index 10 and 9) refer to the teacher. Two of them, numbers 4 and 10, tell us that of 40 classroom activities, the students judged as most worthwhile two that involved the teacher. The other "teacher" items, 5, 6, and 11, deny discomforts; the teachable children, more than the others, deny the occurrence of confusion, disenjoyment, and time-wasting, respectively, in their contacts with the teacher. It appears that the students are confident they can deal with the teacher, and they also perceive him as a chunk of reality to be accepted and used.

Item 7 suggests that the teachable child likes interaction; items

8 and 9 add that he is not distracted by other children, and item 13 reinforces a strong sense of personal adequacy in being free to attack and commend others. Item 12 denies psychic dependence on others and item 14 blends the feeling of personal strength and ability to think alone with the notion of getting response from others. Item 14, along with the two keynote items, is most rejected by the low-teachable students.

This brings us to items 15 through 24 (discrimination index 8). Item 15 suggests that the child thinks he can attack and commend others without getting into trouble—that is, that his interaction is neither hostile nor disorderly. Items 16 and 17 add little that is new about relationships to the teacher. Item 18, the second value statement in the table, is consistent with the "reality" theme of item 3, and most certainly contradicts the "submissiveness" hypothesis. Item 19 adds a clear impression of higher self-esteem among "teachable" students, and strengthens the "adequacy" theme. Items 20, 21, and 23 further spell out the impression of adequacy in interpersonal activity, and item 22 selects the most interactive situation (studying with a small group of students) as also highly worthwhile or productive.

Item 24 brings in a new note of altruism, and it stands alone. As a statement of aspiration it suggests that the students want to see their interpersonal interactions as helpful to others rather than as merely self-gratifying or self-aggrandizing. It further reinforces the student's perception that his behavior is non-hostile (item 15). One may theorize, too, that this altruistic perception gives the student the "right" to expect more from other people, since he stands ready to give as well as to receive.

Items 25 through 29, discrimination index 7, add to the picture of self-adequacy (number 29), and interest in interaction (number 25); and they further spell out the impression of "ease" with the teacher (numbers 26-28).

Items 30 through 51, discrimination index 6 and 5, present an interesting counterpoint between the 8 "value-abstract" items and the 7 "association-subconscious" items; with the remaining seven items providing confirming evidence from perceptions of behavior. Our interpretation will move back and forth among these three sorts of items.

Number 30 places a high value on awareness of innermost thoughts, and this is supported by number 40, high preference for reading about innermost thoughts of characters in a book. Two elements suggest themselves: first, concern with one's own feelings, and second, willingness to face up to them. Concern may suggest a component of anxiety; willingness to face up suggests strength to live with or overcome the anxiety. Number 34, associating safety rather than danger to one's self, supports the hypothesis of strength and adequacy. Number 48, a value item, makes this an explicit aspiration, and it adds support to the extent that aspirations are projections of existing qualities. Numbers 33 and 35, implying personal autonomy in the classroom, provide further support at the level of perception of one's own performance. The aspiration to "do things actively and with enthusiasm," number 45, adds to the image of adequacy.

More theoretically, items 42, 47, and 43, reflecting psychically "good" sexual orientation, are necessary conditions for the hypothesis of personal adequacy to be acceptable.

Moving into more social aspects, item 41 suggests that power—either over others or of others over oneself—is "big," i.e., potent, a reality that makes a difference. Items 45 and 48, already discussed, imply—not surprisingly—a "power" dimension in personal adequacy; and number 31 represents an activity in which one is dominant. This dominance, however, is contingent upon, and subsidiary to work; it is legitimized by group purpose. This qualification is rationalized in the value of "service to others," item 51, and in the value of acting "in a socially acceptable manner," item 50. Thus the picture emerges of self-confidence and adequacy which, however, is to be expressed in power over others only when the expression does not clash with the rights and needs of the others. Further evidence is seen in relation to items 36 and 39, "Being popular." Popularity is a kind of social power which reflects charisma; it is good, but it is also "tight," that is, constrained and stressful. Power through contribution to work is not anxious; but power through charisma is, and one must have a code through which he can direct his power-capabilities (stemming from personal adequacy) into legitimate channels. Items 32, 38, and 44, stressing honesty and hard work, wisdom, and morality, provide such a code.

The behavioral policy which resolves these dilemmas is cooperation, both as a means to legitimize one's power and to control the power of others. Thus the student is most comfortable with a teacher who plans activities with the class, item 49. And he would prefer that assessments be made of him, not by himself or the teacher alone, but by the two of them together, item 46. An item which well summarizes the various elements is number 37. The sort of cooperation here represented, namely telling how one feels when such data are required, calls for personal adequacy,

acceptance of one's own feelings, acceptance of a social framework, and possibly (along with item 31) a touch of narcissism.

In the last group of items, numbers 52 through 66, discrimination index 4, several items appear to further substantiate statements already made, whereas other items add new components to the picture of the "teachable" student.

Item 53 suggests some anxiety about power; item 56 strengthens the picture of psychic adequacy; item 57 brings the elements of power, cooperation, and service together in a work context; item 60 emphasizes cooperation as a means to protect autonomy, and item 55 extends the principle to a group of which one is a member. Items 64 and 66 both deal with hostility, 66 portrays a person who is adequate in the face of hostility of others, and 64 suggests some anxiety about acting in a socially acceptable manner when one is himself hostile. Avoidance of the hostility-provoking situation is selected as the better course.

The novel elements spell out the kinds of external controls (or external supports for internal controls) which the student desires. Our students are adequate and independent enough to want to evaluate the teacher for themselves, but they also want to protect themselves from the consequences of making such evaluations and they seek this protection in impersonal, more objective standards set up by the entire class (item 61). This also, incidentally, recognizes and accepts interdependence with other students as an aid to oneself in the face of danger.

The teachable student also wants a firm, strong teacher whose authority is impersonal—items 54, 58, 59, and 65. Such a teacher presents an attractive solution to the student's own control problems, and we may infer that the student can "identify" with this sort of person.

And finally, the student looks to the teacher to protect the social order by taking action in those interpersonal hostility situations in which the student does not fully trust himself, items 62 and 63. Finally, the desire for a robust, active, and adventurous life is implied in the rejection involved in item 52.

Summary

The General Factor of Teachability

In capsule form, our summary of the tendencies of a teachable student is:

1. He has a high degree of personal, psychological adequacy.
2. He seeks to realize his strengths.
3. He has not yet developed easy control over the expressions of his strengths.
4. He seeks to develop the necessary controls
 - (a) through acceptance of social values,
 - (b) cooperative modes of working,
 - (c) being "work-oriented."
5. He seeks external controls from a "firm" teacher with whom he can identify.

As a footnote, we may consider why such a student would tend to be selected as "getting a lot out of class." First, his personal adequacy would be attractive and admired by many teachers. Second, he would be seen as aspiring and "motivated." Third, he would be seen as desiring to work "with" the group and teacher. Fourth, his need for a "firm" teacher would be supportive of the expert, authoritarian, and traditional-professional types—which are predominant in our experiment.

Variations of "Teachability" Among the 13 Teachers

Having teased out a description of the teachability factor, it now behooves us to consider what this definition includes and what it leaves out, how "universal" or general a factor it is, and to what extent this description would provide a model of the "teachable child" for all teachers.

First, let us remind you that the sections of the assessment battery from which these items were selected contained 360 items. The 66 teachability items thus represent only an 18 per cent sample of the behaviors measured by the test. In other words, 82 per cent of the things the test measured have little or no relationship to "teachability" as an attribute of the entire population of students in this experiment.

Next, let us remember that the assessment test itself by no means attempts to assess all aspects of "personality" and of orientation. The test is stringently limited by two kinds of boundaries. In the first place, the items are only intended to get at "group-relevant" aspects of personality, that is, those personal attributes that would, in theory, bear some relationship to how one would participate in a face-to-face group. And secondly, the situational context of every item is the classroom. Thus the test is delimited to group-relevant aspects of personality as it functions in the classroom. These are very severe delimitations, and do not entitle us to make broad generalizations to "personality" or to probable performance in other social settings.

We may conclude that a classroom full of teachable students is by no means "homogeneous" or "all alike." They do, however, tend to have some limited factor in common, and this factor does make a difference within the situation and typical purposes of the classroom. An analogy might help

us to evaluate this factor. Suppose a lecture is given by a foreigner with a heavy accent. The part of the audience which is used to this accent will understand the lecture very much better than the part which does not. The ability to deal with the accent is certainly a trivial factor from the standpoint of total personality, yet in this particular situation of the lecture, this trivial factor makes an almost crucial difference. If you consider 13 lecturers, each with a somewhat different "accent," and add together into a single picture the generalized abilities required to be successful with most of them, you would end up with a composite picture of a student with great linguistic understanding, ability to cope with frustration, and, possibly, great interest or positivity toward foreigners. But to comprehend any one of these lecturers, only particular skills, attitudes and compatibilities are required.

We think that "teachability" is like that. The picture of a student who could deal best with all 13 teachers is the one we have presented. This student is a generally "healthy" person able to take on all comers. But a student who could best deal with all 13 teachers may not necessarily be able to deal at all well with some one or two of them. The phrase "best deal with all 13" actually means literally exactly that: he will average out better across the 13 cases. He might do superbly with one of the teachers and miserably with another; but in general his average performance in dealing with 13 teachers would be good.

To deal with one teacher in a particular situation requires less generalized abilities than to deal with 13 each in a somewhat different situation. The practical deduction from this is that the full teachability factor, as we have defined for a population of 13 teachers, may not be at all required to cope with any one of them. We will present evidence on this

point shortly. But before we do that, let us complete the picture. There may be special skills or attributes that are important in dealing with a particular teacher, and that are quite different from the generalized abilities. In other words, the teachability factor as defined for thirteen teachers may not only be unnecessarily inclusive for a particular teacher—but it may leave out some other characteristics that are vital to that particular teacher. Thus one might have the linguistic ability and interest that gave one an edge in dealing with foreigners in general; yet from time to time one would encounter a strongly aggressive, academic, or indoctrinated foreigner with whom one could still not cope. The aggressiveness, intellectuality, or value-attitude involved would in these cases be at least as important as the linguistic-cultural abilities.

These possibilities, which we have felt represented strong probabilities, explain why we defined teachability separately for each teacher. And because we did it that way, we have the data we need to test the ideas. Let us consider the evidence relevant to this discussion. We shall ask:

(1) How "big" a factor is teachability? That is, how many differences exist between low and high teachable students? Operationally speaking, of the 360 items in the total battery, how many significantly differentiate between high and low teachable students selected by each teacher?

Column A, Table 13, shows that "teachability" for the various teachers comprehends from 18% to 50% of the 360 items, with the average being 33% or 119 items.

(2) To what extent is the general teachability factor which is most typical of the whole population, represented in the discrimination pattern of each teacher? How nearly alike are teachability in general

and teachability with reference to a particular teacher?

Column B, Table 13, shows that the core items (general factor) are somewhat more heavily represented than the other items. In the various teachability patterns, from 33% to 63% of the core items are selected with the mean at 47%. These figures represent the extent to which the teacher's pattern overlaps the general factor.

(3) What part of the teacher's pattern is composed of the general core items and what part is unique to the teacher?

Column C, Table 13, shows that the general teachability factor accounts for from 19% to 38% of the individual patterns, with the mean at 27%. Column D subtracts the figures of Column C from 100, emphasizing that from 62 to 81% of what each teacher means by "teachable" is not included in the general teachability factor.

The picture of quantitative differences among the various teachers' definitions of "teachability" shows that there is great variation from teacher to teacher both in the number of test items and in the number of the general teachability factor items that discriminate between high and low teachable students for each teacher. These differences are further elucidated and extended when we consider how the various sections of the test enter into teachability.

17	34	43	29	71
13	36	47	26	74
16	36	50	21	79
Mean	33	47	27	73

Table 13

Relationships between General and Specific Teachability Factors

Teacher number	Column A	Column B	Column C	Column D
	% of 360 test items discriminating for each teacher	% of 600 items discriminating for each teacher	% of each teacher's pattern represented by:	
			core items	non-core
1	32	56	32	68
2	29	52	33	67
3	27	42	29	71
4	34	45	23	75
5	50	65	24	76
6	18	38	38	62
7	40	53	24	76
8	34	35	19	81
9	36	45	23	77
10	32	33	19	81
12	34	53	29	71
13	34	47	26	74
14	34	50	27	73
Means	33	47	27	73

(4) Do the various sections of the test discriminate differently from teacher to teacher?

The A columns in Table 14 show what percentage of all the items in each of the eight sections of the test are discriminating for each teacher. Thus, for example, of the 48 items in the section "Ways of Doing Things," 19 per cent discriminate between high and low teachable students for teacher 8, where as 77 per cent discriminate high and low teachable students for teacher 5. The smallest range of discrimination across all the teachers is yielded by the 50 items of the section "Situations": 2 per cent to 28 per cent.

Looking down the columns, we see that the range of discrimination across the eight sections of the test is lowest for teacher 6 (low 6, high 28, range 22) and for teacher 13 (low 22, high 48, range 26). The greatest range or variation of discrimination among the eight sections is highest for teacher 12 (low 14, high 67, range 53), for teacher 10 (low 2, high 53, range 51), and for teacher 5 (low 26, high 77, range 51). Teachers 4 and 12 are interesting because they have exactly the same total number of items in their discrimination pattern (34%, Table 10) and at the same time almost the greatest differences within their patterns.

(5) Do the various aspects of the general teachability factor discriminate differently from teacher to teacher?

The B columns in Table 14 are calculated like the A columns except that the percentage is of the number of items from each section that are drawn, not from the whole test but from the general teachability factor. Thus the B columns show how the internal composition of teachability, defined by each teacher, compares with teachability as defined by commonalities among all 13 teachers.

Table 14

Percentage of all items (A), and core items (B) included from each section of the test within the discrimination pattern of each teacher

Test Section	Teacher													
	1	2	3	4	5	6	7	8	9	10	12	13	14	
Who should decide?	A 58 B 83	A 29 B 50	A 17 B 00	A 37 B 67	A 50 B 50	A 13 B 33	A 25 B 33	A 42 B 33	A 17 B 17	A 33 B 17	A 33 B 83	A 33 B 33	A 50 B 33	
Classroom Activities	30 50	25 17	23 50	35 50	58 83	20 33	45 67	45 33	45 67	53 67	67 67	48 83	53 50	
Partici- pation	32 75	40 75	20 50	28 25	68 100	16 75	46 75	38 75	46 25	38 25	38 75	38 75	44 75	
Situations	22 25	26 50	26 50	16 00	26 25	6 50	18 50	20 25	28 75	2 00	14 00	22 25	16 50	
Teacher descrip- tion	28 40	6 20	28 80	44 20	33 20	28 20	39 60	17 00	22 20	17 00	33 40	22 20	44 60	
Ways of doing things	44 63	31 53	46 63	46 58	77 95	27 32	52 68	19 32	58 74	35 53	37 63	27 16	33 42	
Values	18 46	32 69	20 15	30 31	45 54	28 62	40 38	33 38	28 23	22 23	32 38	43 92	32 62	
Words, Words	34 56	13 56	15 33	40 67	37 44	11 11	4 33	46 44	31 33	49 33	40 44	30 44	24 44	

Thus we see that 83 per cent of the "Who Should Decide Items" from the general teachability factor are included in the discrimination patterns of teachers 1 and 12, whereas none of these items appears in the pattern for teacher 3. "Ways of Doing Things" and "Values" are the sections that contribute most heavily to the general teachability factor; yet the range across the teachers for the "Ways of Doing Things" items is from 16 per cent (teacher 13) to 95 per cent (teacher 5), and for "Values," the range is 15 per cent (teacher 3) to 92 per cent (teacher 13).

We need not labor the point further. The general teachability factor represents the total population of discrimination patterns of the thirteen teachers; but it describes no one such pattern very well. The differences between each teacher's pattern and the general factor are so great that the hunch that students will have to be selected according to the separate patterns of each teacher seems to us to be thoroughly correct.

Chapter 4

Differences Between the Operations of Teachable and Regular Classes

The selection of "teachable" students for each teacher introduces a bias into the classroom. Compared to the usual class, the teachable class should, theoretically, be easier to teach. The events in the classroom should have a different quality about them, and this quality should be conducive to greater effectiveness, whatever that may mean, for each teacher. If the teacher is concerned with "achievement" of the sort that achievement tests measure, his more "teachable" class should gain more. If the teacher is not concerned with "achievement," and in fact provides no more or better activities designed to further achievement, then the achievement gain should not be greater. It was this reasoning that led us to think of the selection factor as a "teachability" factor rather than as an "achievement" factor.

1. The Observational Data

The question of what the teacher is "really" trying to teach, and of in what ways and to what extent he is in fact facilitated, can only be answered by interpreting observations of what goes on in his classroom. The data to be discussed in this section all are reports of observations of events within the 26 classes of the thirteen teachers. The data are of the following sorts:

(1) Classification of teacher comments within a set of categories.

This analysis was made from tape-recorded samples of classroom conversation. Three research assistants who were thoroughly familiar with the class each categorized the statements of the teacher. They then ironed out their

differences of judgment together. The categories of data obtained in this way comprise "Observation Schedule 1."

(2) Number of instances of various sorts of behavior engaged in by students. This was observed in the classroom and tallied. It is reported as a frequency count (Observation Schedule 2).

(3) Generalized ratings, made at the end of the year by the students, of how often (on a five-point scale) different behaviors were engaged in by the teacher and by the students ("Guess Who," frequency).

(4) Ratings (on a five-point scale) by the students of the extent to which the teacher approved or disapproved of each of these behaviors ("Guess Who," Approval).

(5) The students' rank ordering of their class as compared to other classes (Student Opinion Survey) is not strictly observational data, but we included the data at this point because the one item that was significant is very helpful to interpretation of the rest of the data.

Our first task was to discover which of these items or categories discriminate between teachable and experimental groups. The means or medians were found for each class, and we counted the number of comparisons in which the experimental class was higher than the control class, and vice versa. The discrimination index is the difference between the number of comparisons in which the experimental class is higher than the control class. An index of three or more is considered to suggest a difference in tendency.

The first question we ask of the data is how many differences are found to discriminate between experimental and control groups.

Table 15 shows the number and percent of items or categories that discriminate.

Table 15

**Distribution of Discriminating Items
or Categories of Observation**

Source of Item or Category	Number of items or categories possible	Number of discriminating items or categories	Percent of discriminating items or categories
1. Observation Schedule #1			
a) Teacher comments	13	6*	46
b) Teacher affect (emotionality)	12	3	25
2. Observation Schedule #2 (student behaviors)	16	7	44
3. Guess Who—Frequencies			
a) Students	18	4	22
b) Teacher	18	6	33
4. Guess Who—Approval	18	8	44
Total	95	34	36

* In addition, the teacher talked more of the time, a statistic which "adds up" these categories.

Table 15 shows that 34 per cent of the behaviors observed by the researchers or students discriminate within the thirteen comparisons of experimental and control classes.

The second question is how large the differences are; that is, how different the classes are from each other. That answer is that some differences are large and others small, but for the most part the data will show (Table 17) that the differences are quite small. It is the number of comparisons rather than the size of the differences that can be called "significant." Our confidence is based on the fact that a large number of small differences form a consistent pattern which is in accord with theory.

Given this information about the data, our next question is what our strategy of interpretation shall be. First, we shall attempt to describe the control classes, making a composite or "median" picture from the 13 observed control classes. This discussion will be based on Table 16 and will be limited to the 34 items or categories which differentiate between experimental and control groups. Second, we shall note in which direction each of these 34 aspects was biased in the experimental groups (Table 17). Third we shall attempt to diagnose and generalize the pattern of differences.

2. Description of the Control Classes

The salient items are presented in Table 16. We shall now discuss them briefly, adding additional information to clarify the picture.

The first ten items are from Observation Schedule #1. Of these, the first seven are percentages of the total observed behavior, and the last three are average number of times certain behaviors occurred during

a class period.

In the Control classes, the teacher talked about 76 per cent of the time. Ninety-one per cent of his comments are "technical," which means in our category system that they simply carry out predetermined plans and activities or "cover-the-ground" by giving information, either via discussion or lecture. In 12.5 per cent of the comments, the teacher is talking about concepts and relationships, rather than simply giving information or description. Eight per cent of the comments are "professional," by which we mean that they are primarily influenced by learning-oriented responses and concerns of students. This is the part of educative interaction which is "emergent" rather than predetermined or impervious to needs of students as expressed in their behavior.

Four per cent of the teacher's comments are moralistic or "motivating." That is, they try to make the activities, homework, or conclusions more palatable by appeals to duty, requirements of an "education," and other similar widespread kinds of teacher-rhetoric. In three per cent of the statements, the observers detect the effort to persuade the students to believe or think what the teacher believes or thinks, to accept a value orientation similar to the teacher's. The teacher's value orientation is, however, for the most part normative and impersonal, for only one per cent of his statement express subjective or personal opinions.

The teacher's impersonality with regard to ideas and subject content is further seen in the statistic that less than half the teachers ever come up with a fantasy or hunch that appears to the observers to be completely irrelevant to the cognitive content of discussion.

Table 16

The Control Classes

Items

Proportion of time during which teacher talks

Teacher behavior determined by rules and prior considerations such as defined procedures, ground to be covered, or academic lesson

Teacher instruction that focuses on the meaning and significance of ideas with particular concern for pointing out the relationship of one concept or variable to another

Teacher behavior determined by situational demands and student interest, with effort to lead students into self-initiated decision making processes

Teacher statements that are concerned explicitly with group standards, morale, organization, and/or role expectations

Attempts by teacher to condition the student to acceptance of a value orientation similar to the teacher's

Teacher expression about own experience, fantasy, hunch or opinion

Teacher behavior that is irrelevant to the cognitive task demands—thus a freer expression and association of ideas

Affect of pairing expressed by the teacher to the class during discussion or course of lesson

Greater quantity of unidentified affect in E classes

Frequency that teacher presents ideas which influence the class

Frequency that teacher offers compromises when there are several sides being taken on a topic

Frequency that teacher thinks his or her idea is best

Control Groups

C:md=76%

C:md=91%

C:mean=12.5%

C:md=8.0%

C:md=4%

C:md=3%

C:md=1%

C:mean=.5/class hour
(mdn=0)

C:md=0/class hour

C:md =0/class hour

C: usually

C: usually

C: usually

Table 16 (Continued)

<u>Items</u>	<u>Control Groups</u>
Frequency that teacher talks out of turn	<u>C</u> : rarely
Frequency that teacher brings in a lot of extra work that he has done on things relating to this class	<u>C</u> : rarely
Frequency that teacher seems to get upset when unable to answer questions	<u>C</u> : never
Extent of teacher approval when a student brings in a lot of extra work that he or she has done on things relating to class	<u>C</u> : shows approval
Extent of teacher approval when a student offers compromises when there are several sides being taken on a topic	<u>C</u> : shows approval
Extent of teacher approval when a student suggests new ideas when the group seems to be stuck	<u>C</u> : shows approval
Extent of teacher approval when a student continually asks questions in class	<u>C</u> : neither approves nor disapproves
Extent of teacher approval when a student sympathizes with others when it is needed most	<u>C</u> : neither approves nor disapproves
Extent of teacher approval when a student thinks his or her idea is best	<u>C</u> : neither approves nor disapproves
Extent of teacher approval when student talks out of turn	<u>C</u> : tolerates
Extent of teacher approval when student disrupts the work of the class by clowning and fooling around	<u>C</u> : tries to prevent
Student raising hand for recognition by teacher following question asked of the class	<u>C</u> :md=32/class hour
Voluntary, task oriented student verbal behavior; called on after raising hand	<u>C</u> :md=10.5/class hour
Frequency of teacher's calling on students by name—hand not raised	<u>C</u> :md=23/class hour

Table 16 (Continued)

<u>Items</u>	<u>Control Groups</u>
Impulsive answers to teacher questions by students who simply blurt out their answer without waiting for teacher recognition	$\bar{C}: md=5.0/\text{class hour}$
Quantity of instances when students initiate a new topic or request additional information—ask questions	$\bar{C}: md=23/\text{class hour}$
Student behavior that evidences preoccupation with activity other than class lesson—e.g., doodling, daydreaming, etc.	$\bar{C}: md=15.5/\text{class hour}$
Student behavior that interferes with the work effort of others	$\bar{C}: md=1/\text{class hour}$
Frequency that students sympathize with others when this is needed most	$\bar{C}: \text{occasionally}$
Frequency that students get things done when most of the class is confused	$\bar{C}: \text{occasionally}$
Frequency that students talk out of turn	$\bar{C}: \text{occasionally}$
Frequency that students disrupt the work of the class by clowning and fooling around	$\bar{C}: \text{rarely}$
Extent that a student would like to work with the same group of students again next year	$\bar{C}: \bar{x}=6.5^*$

* Mean derived from ten-point scale with 1 equalling "not at all" and 10 equalling "completely."

Finally, the observers noted no instances of warm interpersonal affects of the sorts known as "pairing," and "diffuse affect" on the part of more than half the teachers.

The next six items represent observations by the students of how often, in their opinion, the teacher engages in certain behaviors. According to the students, the teacher's ideas are usually influential, he usually settles arguments by seeking acceptable compromises, and he usually thinks his own idea is the best one. On the other hand, he rarely "talks out of turn," and rarely does "extra work" on behalf of the class. Further, he never gets upset when he cannot answer questions raised by the students.

To us these six observations by the students reinforce the researcher's observations. The teacher appears to be unflustered, powerful, authoritative, and impersonal. He knows what has to be done and does it. He is secure enough to allow the students to get into conflict, and usually finds some compromise among their positions.

The next 8 items portray the students' perceptions of what will be approved or disapproved of by the teacher. The teacher is not "really glad" about any of the 18 behaviors, but he is seen as "showing approval" of three: extra work done by the student, compromise suggestions offered by students, and new ideas offered by students to get the group out of frustration. The teacher is seen as neutral or indifferent to continual questioning by a student, expressions of sympathy from one student to another, and self-congratulatory or aggrandizing remarks by a student. Finally the teacher is seen as tolerating (more negative than being indifferent to) a student when he "talks out of turn" and as trying to prevent "goofing off" by the student. These items suggest that the teacher approves behaviors that help him, is either indifferent to or uninvolved

in needs expressed in interpersonal behaviors of students, and attempts to secure order by persuasion (e.g., moralizing).

So far we have been describing the teacher. The next seven items present the researcher's observations of the students. The most frequent behaviors that distinguish between experimental and control groups during the 24 per cent of the time that the students have the floor are asking and answering questions. In cases where the teacher asks the question, hands are raised 32 times during the hour; of these, the teacher calls on about one third. The teacher is more likely to call on someone who did not raise his hand (23 times during the hour), and in five instances a student blurts out the answer without being recognized. Thus the teacher asks about 38 questions during the hour. In addition, the students raise 23 questions. During the hour, also, the observers noted about 16 instances of doodling, daydreaming, or other, presumably inattentive behavior, and about one instance where such behavior interfered with the work of others.

The students perceive that they rarely disrupt the class, that occasionally they sympathize with each other, are able to operate in the face of confusion, and "talk out of turn." Finally, on the Opinion Survey, they indicate mild liking for the idea of working with the same group of students next year.

Our picture of the control classes, built only from the 36% of the items and categories and distinguish it from the experimental class, portrays those aspects of the pattern that are influenced by teachability. In summary, these aspects add to a teacher-dominated, routine, recitation-type lesson, with considerable give and take during the lesson-oriented discussion, and with half the recitation "conscripted" by the teacher calling on students who do not offer to answer his questions.

3. The Differences Teachability Made

The picture of the Control classes is also substantially the picture of the Experimental classes. There are no marked differences in method of teaching, ways of dealing with students, types of activity, etc. It is very clearly the same person teaching both classes. The differences are primarily caused by the teacher responding somewhat differently to the two classes, and in many cases there is little evidence that the teacher even knows he is behaving any differently. Most of our teachers were aware of differences in liking one class or the other, but most of the other differences they told us about were attributed to particular strong or weak individual students, not to the classes as groups. Nevertheless, the discrimination index shows us that there were many differences, mostly small, that "went in the same direction" a significant number of times, and the examination we are about to undertake will show that these differences do add up to a consistent picture.

The most discriminating item, Table 17, is supported by the largest number of comparisons as well as by markedly different behavior: the item is observed student inattentiveness or private play. The most obvious thing about the students teachers judged as "getting most out of class" would appear to have been that they were "work-oriented" and presented less of a "management problem."

Differences Between Experimental and Control Classes

Item No.	Discrimination		Item	Finding	Source of Item
	Index	E = C			
1	8	2-1-10	Student behavior that evidences preoccupation with activity other than class lesson—e.g., doodling, daydreaming, etc.	E:md=2 observed instances/class hour— C:md=15.5/class hour	Observation 2 (Private Play)
2	7	2-2-9	Extent that a student would like to work with the same group of students again next year	E $\bar{x}$ =7.2 C $\bar{x}$ =6.5* * Mean derived from ten-point scale with 1 equalizing "not at all" and 10 equalling "completely."	Student Opinion Survey (Item 4)
3	7	1-4-8	Extent of teacher approval when a student bring in a lot of extra work that he or she has done on things relating to class	E: really glad C: shows approval	Guess Who? (Item 6)
4	6	3-1-9	Teacher behavior determined by rules and prior considerations such as defined procedures, ground to be covered, or academic lesson	E:md=83% of teacher statements/class hour C:md=91%	Observation 1 Teacher Role (technical)
5	6	3-1-9	Extent of teacher approval when student disrupts the work of the class by clowning and fooling around	E: tolerates C: tries to prevent	Guess Who? (Item 12)
6	5	4-0-9	Frequency that teacher seems to get upset when unable to answer questions	E: rarely C: never	Guess Who? (Item 17)

Table 17 (Continued)

Item No.	Discrimination Index	Item	Finding	Source of Item
7	5	Teacher expression about own experience, fantasy, hunch or opinion	$\bar{E}$:md=5% of teacher statements/class hour $\bar{C}$:md=1%/class hour	Observation 1 Level of Concern (subjective)
8	5	Extent of teacher approval when a student continually asks questions in class	$\bar{E}$: shows approval $\bar{C}$: neither approves nor disapproves	Guess Who? (Item 2)
9	5	Greater quantity of such affect in $\bar{E}$ classes	$\bar{E}$:md=2 observed instances/class hour $\bar{C}$: 0/class hour	Observation 1 Emotionality (unidentified affect)
10	5	Student behavior that interferes with the work effort of others	$\bar{E}$:md=0 observed instances/class hour $\bar{C}$:md=1/class hour	Observation 2 (disturbs others)
11	5	Affect of pairing expressed by the teacher to the class during discussion or course of lesson	$\bar{E}$:md=2 observed instances/class hour $\bar{C}$:md=0/class hour	Observation 1 Emotionality (Pairing with group)
12	4	Teacher behavior determined by situational demands and student interest, with effort to lead students into self-initiated decision making processes	$\bar{E}$:md=8.5% of teacher statements/class hour $\bar{C}$:md=8.0%	Observation 1 Teacher Role (Professional)
13	4	Frequency of teacher's calling on students by name—hand not raised	$\bar{E}$:md=32.5 observed instances/class hour $\bar{C}$:md=23/class hour	Observation 2 (conscripted answers)
14	4	Extent of teacher approval when a student sympathizes with others when it is needed most	$\bar{E}$: shows approval $\bar{C}$: neither approves nor disapproves	Guess Who? (Item 15)

Table 17 (Continued)

Item No.	Discrimination		Item	Finding	Source of Item
	Index	E = C			
15	4	3-3-7	Teacher instruction that focuses on the meaning and significance of ideas with particular concern for pointing out the relationship of one concept or variable to another	E: mean=14.7% of teacher statements/class hour C: mean=12.5%/class hour	Observation 1 Level of Concern (Relationships among concepts)
16	4	3-3-7	Voluntary, task oriented student verbal behavior; called on after student raises hand	E: md=9.5 observed instances/class hour C: md=10.5/class hour	Observation 2 (student comments)
17	4	3-3-7	Extent of teacher approval when a student suggests new ideas when the group seems to be stuck	E: really glad C: shows approval	Guess Who? (Item 1)
18	4	3-3-7	Extent of teacher approval when a student thinks his or her idea is best	E: tolerates C: neither approves nor disapproves	Guess Who? (Item 7)
19	4	3-3-7	Frequency that teacher thinks his or her idea is best	E: occasionally C: usually	Guess Who? (Item 7)
20	4	3-3-7	Frequency that students get things done when most of the class is confused	E: usually C: occasionally	Guess Who? (Item 8)
21	4	3-3-7	Frequency that students sympathize with others when this is needed most	E: usually C: occasionally	Guess Who? (Item 15)
22	4	3-3-7	Frequency that students talk out of turn	E: rarely C: occasionally	Guess Who? (Item 16)
23	4	2-5-6	Teacher behavior that is irrelevant to the cognitive task demands—thus a freer expression and association of ideas	E: mean=1 time/class hour when observed C: mean=.5/class hour	Observation 1 Emotionality (flight-escape)
24	4	1-7-5	Greater quantity of attempts by teacher to condition the student to acceptance	E: md=9% of teacher statements/class hour C: md=3%/class hour	Observation 1 Teacher Role (generalized adult)

Table 17 (Continued)

Item No.	Discrimination		Item	Finding	Source of Item
	Index	E = C			
25	3	5-0-8	Proportion of time during which teacher talks	E:md=78% of class time C:md=76%	Observation 1 Teacher statements
26	3	5-0-8	Extent of teacher approval when a student offers compromises when there are several sides being taken on a topic	E:really glad C: shows approval	Guess Who? (Item 10)
27	3	4-2-7	Teacher statements that are concerned explicitly with group standards, morale, organization, and/or role expectations	E:md=2% of teacher statements/class hours C:md=4%	Observation 1 Topic of Discussion (Group centered)
28	3	4-2-7	Impulsive answers to teacher questions by students who simply blurt out their answer without waiting for teacher recognition	E:md=4.5 observed instances/class hour C:md=5.0/class hour	Observation 2 (spoken out)
29	3	4-2-7	Student raising hand for recognition by teacher following question asked of class	E:md=23 observed instances/class hour C:md=32/class hour	Observation 2 (volunteer answers)
30	3	4-2-7	Quantity of instances when students initiate a new topic or request additional information—ask questions	E:mean=26.2 instances/class hour C:mean=23.4/class hour	Observation 2 (student questions)
31	3	4-2-7	Frequency that teacher brings in a lot of extra work that he has done on things relating to this class	E:usually C:rarely	Guess Who? (Item 6)
32	3	4-2-7	Frequency that teacher offers compromises when there are several sides being taken on a topic	E:always C:usually	Guess Who? (Item 10)
33	3	4-2-7	Frequency that teacher talks out of turn	E:occasionally C:rarely	Guess Who? (Item 16)

Table 17 (Continued)

Item No.	Discrimination		Item	Finding	Source of Item
	Index	E = C			
34	3	4-2-7	Frequency that teacher presents ideas which influence the class	<u>E</u> : always <u>C</u> : usually	Guess Who (Item 18)
35	3	3-4-6	Frequency that students disrupt the work of the class by clowning and fooling around	<u>E</u> : occasionally <u>C</u> : rarely	Guess Who? (Item 12)
36	3	3-4-6	Extent of teacher approval when student talks out of turn	<u>E</u> : tries to prevent <u>C</u> : tolerates	Guess Who? (Item 16)

Item 2 suggests that some of the control or curbing of tendencies to play comes from within, for in 9 of the comparisons the mean liking of each other as people to work with is higher in the Experimental groups. The greater regard for each other as companions in work may well imply a higher regard for work.

Item 3 shows a higher reward for doing extra work; the teacher is perceived as being "really glad" rather than merely "shows approval."

In item 4, the observers report some loosening of the constricted technical, routine, and pre-determined teacher behavior, from a median of 91% to a median of 83 per cent of all teacher behavior.

In item 5 we learn that the students see the teacher as more permissive in the face of clowning. There is only one-eighth as much clowning, and the teacher is less concerned with trying to prevent it, probably because there is much less to prevent.

These 5 items are, in our opinion, the keynote items. The plurality of comparisons "favoring" the experimental groups is in each case 6 to 8, which is certainly way beyond "chance." Already in these five items we have the basic themes which we will expect the other items to spell out in more detail:

- (1) A more work-oriented, less inattentive and distracted class.
- (2) More work-solidarity among the students
- (3) More enthusiasm in the teacher's approval of work
- (4) Less rigidity, more flexibility in the teaching
- (5) Greater permissiveness with respect to disruptive behavior
which, however, occurs much less frequently.

The greater flexibility, permissiveness, and enthusiasm of the teacher could, one might suppose, also imply a greater personal involvement of the

teacher. In item 6, the students portray the teacher as rarely (rather than never) getting upset when he cannot answer questions. Item 7 shows a fivefold increase in the number of subjective and personal comments of the teacher—which is also consistent with his lessened rigidity.

In item 8, the teacher is able to be a little more approving "when a student continually asks questions in class." Item 11 shows us that the permissiveness goes along with slightly more positive and warm expressions of the teacher toward the students, and item 9 says that affect in general is at a slightly higher level.

In item 10 the observers note no instances of student behavior that disturbs others, which suggest that the tolerant attitude, ascribed to the teacher in item 5, is not very expensive to maintain.

Item 12 is especially interesting when coupled with item 4. It suggests that the "loosening up" of the rigid technical pattern, while distinctively in the direction of a more responsive co-determination of work, is mostly to be accounted for in other behaviors, and we shall see that these other behaviors are mostly the offering of more personal, subjective, and "involved" comments by the teacher. Item 15, at the same level of discrimination, suggests that the teacher is digging deeper, conceptually speaking, and this suggests that the greater amount of subjectivity may signify involvement rather than irresponsibility.

Item 13, showing 50 per cent more frequency of calling on students by name, is open to two interpretations. The fact that these are students who did not raise their hands could be interpreted to mean that the teacher is more frequently checking up on the quiet ones. This could be viewed either as an attempt to trap them, or it could be viewed as an expression of concern for them. The other items give considerably more support for

this second hypothesis.

Item 14 gives slightly more substance to the allegation of more warmth from teacher to class (item 11), and item 17 suggests that the teacher's greater involvement includes process as well as task work; he gives more reward to those who help the class.

Among the remaining items at this same level of discrimination, number 24 enables us to organize the information from several others. We see here that the teacher makes more effort to persuade students to his own beliefs. He is more involved, more concerned to get across his ideas, and he maintains more strong control of participation (he calls on more people who do not have their hands up—item 14, and on fewer who do, item 16). He is a little freer to exploit the class with personal, irrelevant remarks (item 23). And he is less tolerant of possessive students (item 18). At the same time, he is also less dogmatic (item 19), and he has a stronger, rather than a weaker class (items 20, 21, and 22) as perceived by the students.

The remaining items, discrimination index 3, add further details. The slightly greater per cent of time during which the teacher talks (item 25) is consistent with his greater involvement, and item 26 re-affirms that the teacher is concerned with the class making progress. Item 27 shows the teacher as less dogmatic, authoritarian, and self-concerned. Item 28 shows the students as slightly more self-disciplined and item 30 suggests once again that the source of the discipline is their interest in work. Item 29, showing fewer hands raised when the teacher asks questions, suggests, when taken with item 13, that he probably asks his questions of particular individuals rather than of the class as a whole—which reinforces the notion of greater concern and involvement with the students.

The last six items give us further perceptions of the students, and these add a little more to the picture. The students see the teacher as usually, rather than rarely, doing extra work for the class (item 31), a sign of greater involvement and enthusiasm. The teacher always, rather than usually, moderates arguments (item 32), a sign of greater involvement in the class's problems as a group. He occasionally, as compared to rarely, talks out of turn (item 33), a sign of greater emotional freedom. Interestingly, his ideas always, rather than usually, influence the class (item 34), which suggests a greater readiness of the class to accept them. The students see each other as more often clowning and fooling around (item 35) which in the face of contradictory evidence from the observers, can be taken as an expression of the feeling of greater permissiveness. Finally the teacher clamps down harder, according to the students, on "talking out of turn" (item 36); and this could be an expression of greater guilt feelings on such occasions or of a perception of greater work-orientedness on the part of the teacher.

Summary

Considering the 5 themes of the first five items and the additional nuances added by the other items, we see that one central theme comprehends all the details: the differences are subsumed under the concept of greater solidarity. The composite picture of the differences in operation of the experimental classes as compared to the control classes is indeed merely a convenient fiction—useful, to be sure, as is the picture of a better or more fully-developed group. It is both more work-oriented and more permissive. The leader is more of a person, more psychically free, more influential, more enthusiastic—and at the same time less rigid and dogmatic. The students have more self control

and more regard for each other and they see the teacher as more rewarding and more ready to exert himself on their behalf.

The sociometrics and teacher marks displayed in Chapter 1 further reflect these differences. The finding that "teachability" represents more personal adequacy, energy, and psychic freedom (Chapter 2) provides the "explanation."

The style of teaching in the experimental groups can be briefly summarized: it is the old style adapted, for the most part involuntarily, to a higher solidarity group.

1. Variations Among the 13 Teachers

Our description of the changes in classroom operation yielded by the teachability factor is, of course, a composite description constructed from 13 comparisons among pairs of classes. The changes describe a large population which exists simply by virtue of our ability to add numbers. There is no assurance that any actual teacher or comparison between two of his classes would "fit" the picture.

Therefore it behooves us at this point to consider the range of individual possibilities covered up by the construct of the population. Perhaps the simplest strategy is to ask ourselves: How nearly alike are the patterns of differences produced among the teachers? If these patterns are very similar, then the population construct must also fairly represent all the situations; but if they are markedly different, then the population construct is indeed merely a convenient fiction—useful, to be sure, at the level of propositions, but an unsafe basis for prediction in any individual case.

Let us consider the evidence relevant to this discussion. We shall ask:

(1) How extensive is the pattern of differences between experimental and control groups from teacher to teacher? Operationally speaking, of the 95 observation categories, how many significantly differentiate between experimental and control groups for each teacher?

Column A, Table 18, shows that of the 95 possible differences our instruments could register, the range is from 21 per cent in the case of teacher 10 to 46 per cent in the case of teacher 5. The mean is 35 per cent, or 33 categories..

(2) To what extent is the general pattern of differences, representing the whole population, discriminating for each comparison of an experimental group with its corresponding control group?

Column B, Table 18, shows that the items that discriminate for the whole population also discriminate somewhat more heavily than other items for most of the teachers. The range is from 26 per cent for teacher 10 to 59 per cent for teacher 5. The mean is 40 per cent, or 43 categories.

(3) What part of the pattern of differences between the experimental and control group of each teacher is composed of categories discriminating for the population as a whole?

Column C, Table 18, shows that from 33 per cent (teacher 6) to 49 per cent (teacher 14) of the individual patterns is composed of categories which discriminate for the whole population. The mean is 41 per cent. By the same token, the part of the pattern for each teacher that is not included in the general pattern ranges from 67 to 51 per cent.

(4) Do the various kinds of observation categories discriminate differently from teacher to teacher?

Table 18

The Representation of Observational Categories
in the Differences Between Experimental and Control Classes

Teacher Number	Column A	Column B	Column C	Column D
	% of 95 categories discriminating for teacher	% of 34 core categories discriminating for each teacher	% of each teacher's pattern represented by core categories	Non-core categories
1	39	47	43	57
2	36	35	35	65
3	34	32	34	66
4	38	44	42	58
5	46	59	47	53
6	43	38	33	67
7	30	29	36	64
8	40	41	38	62
9	29	35	44	56
10	21	26	45	55
12	37	44	43	57
13	38	47	44	56
14	35	47	49	51
Means	35	40	41	59

The A columns in Table 19 show what percentage of each set of categories discriminates between control and experimental groups for each teacher. Observation schedule #1, representing the coding of 13 aspects of the teacher's comments, varies most markedly in its ability to discriminate. For teacher 9, only 8 per cent of the categories discriminate, whereas for teacher 5, 77 per cent of the categories discriminate. The smallest range of discrimination is provided by Observation schedule #2, which provides the categories within which student behaviors were classified. The range is from 47 per cent (teacher 14) to 80 per cent, teacher 1.

Looking down the A columns, we see that the various kinds of categories contribute very differently to the discrimination patterns. The emotionality counts, observation schedule #1, contribute nothing to the patterns of teachers 10 and 12 (among others). Yet the teacher behaviors rated by the students contribute 33 per cent of their categories to teacher 10, and 72 per cent to teacher 12. Among the thirteen teachers the range of contributions by the various sets is from 33 per cent (teacher 10) to 72 per cent (teacher 12).

(5) Do the categories that discriminate for the whole population discriminate differently from teacher to teacher?

The B columns of Table 19 show what percentage of the generally discriminating categories ("core" categories) in each set are included within the discrimination pattern of each teacher. The two sets of core categories (teacher behaviors as rated by students and teacher behaviors as rated by observers) show the greatest variation in their contributions to the patterns for each teacher: the range is from 17 per cent to 100 per cent. The smallest range of discrimination is shown by the categories of student behavior and teacher approval as rated by the

Table-19

Percentages of All and of Core Categories in
Each Set that Discriminate Between Experimental and Control Classes

Categories	Teacher													
	1	2	3	4	5	6	7	8	9	10	12	13	14	
A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	A B	
Guess Who														
Teacher-Frequency Core	39 33	56 17	67 67	50 83	33 50	56 67	28 17	33 33	44 33	33 33	72 100	39 67	33 17	
Student-Frequency Core	22 25	11 25	22 25	39 50	50 75	44 25	33 25	50 25	28 50	28 25	28 50	50 50	22 50	
Teacher Approval Core	33 13	33 25	28 25	33 13	50 50	39 60	11 13	17 13	28 25	28 38	28 13	22 25	28 25	
Observation Schedule #1														
Comments Core	46 83	39 50	15 33	23 50	77 100	39 67	31 33	39 83	8 17	31 50	31 17	39 50	69 83	
Emotionality Core	17 33	25 00	8 00	17 00	8 00	8 00	8 00	42 00	00 00	00 00	00 00	8 00	17 67	
Observation Schedule #2														
Student Behavior Core	80 86	53 71	53 29	60 57	53 57	60 57	67 71	67 71	53 71		53 71	67 71	47 57	

students: 25 to 75 per cent and 0 to 50 per cent, respectively.

Looking down the B columns, we see that the various core categories contribute very differently to different teachers. Thus all the core items having to do with teacher behaviors in observation schedule #1 discriminate experimental and control classes for teacher 5, but none of the core items having to do with emotionality discriminate.

As with the teachability factor, it is amply clear that the general pattern of differences between the populations of 13 comparisons of experimental and control classes does not at all well describe the differences between experimental and control groups of any single teacher.

Each teacher has his own way of teaching and is facilitated by a class of students who conform to his definition of teachability. The resulting classroom processes are different from teacher to teacher. The general proposition that a teacher is more effective when he works with teachable students seems to us to be correct, but the terms of this proposition are quite different from one teacher to the next.

and the least viable being in the group with reports from psychological instruction, achievement tests, and multiple perceptions of the course.

But does this generalization apply to all our individual teachers? Did they all have a "technical-rational" style of teaching? Was the change introduced by grouping always toward greater solidarity in the classroom? We have already noted that each teacher defines teachability somewhat differently, and that the differences in classroom operation between control and experimental groups form different patterns. Is it not likely, then, that there may well be 13 quite different equations all having the form

Chapter 5

Case Study of Effects of Teachability
on Classroom Operation: Teacher #5

By putting together the observations of thirteen control or unselected classes, we formulated a composite, fictitious, "median" description of the usual teaching style of our 13 teachers. Then, through the contrivance of a "discrimination index" we showed that the median teaching style is changed when the teacher is given a "teachable" class. This new style is quickly summarized: it is the old style adapted to a higher solidarity group.

A complete summary of the results obtained from the composite picture of the 26 classes is: A predominantly "technical-routine" style of teaching will shift toward a more personally involved, psychologically interactive style when applied to a higher solidarity group. The outcomes will also shift, with the greatest shifts (teacher marks, satisfaction, and interpersonal liking) reflecting the changed psychological interaction, and the least shifts being in the areas most remote from psychological interaction (achievement tests, stereotypic perceptions of the course).

But does this generalization apply to all our individual teachers? Did they all have a "technical-routine" style of teaching? Was the change introduced by grouping always toward greater solidarity in the classroom? We have already noted that each teacher defines teachability somewhat differently, and that the differences in classroom operation between control and experimental groups form different patterns. Is it not likely, then, that there may well be 13 quite different equations all having the form:

Regular (Control) Style of Teaching of Each Teacher	+	More Teachable Students Selected for Each Teacher	=	Changed Classroom Operation, More in Line with Each Teacher's Purposes	+	Better Educational Outcomes, as Judged by Each Teacher
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This equation assumes that each teacher has an "established" or habitual style of teaching. We attempted to justify this assumption by selecting experienced teachers who were judged by the administrators to have a stable, "well worked-out" course. Teacher style, then, is a set of "givens" in the experiment.

The "more teachable students" represent the independent variable. The students whose performance we studied were not themselves selected by the teacher; they were selected by us on the basis of their similarity to the "model" students selected by the teacher from his earlier classes. In composing the teachable classes, exactly the same procedure was followed in every case, and the judgments are all completely empirical. The only assumptions involved in the independent variable are: (a) that each teacher does a better job of teaching some students than others; (b) that the teacher, after seven months of working with a class, can point out the students "getting most and least out of class"; (c) that a long and heterogeneous assessment battery will show a sufficient number of items significantly differentiating between more and less teachable students; and (d) that students selected from a large population on the basis of these significant items will be "similar" to the model teachable children with respect to the most salient aspects of teachability.

There should, one would suppose, be a close relationship between the first two terms of the equation. In his dealing with the class, each teacher expects certain things from the students, and he makes certain demands upon them. These expectations and demands are inherent in his

"style" of teaching. From observation of his style of teaching, it should be possible to describe the teacher's demands and expectations. And a "teachable" student would then be defined as a student who could meet the demands and live up to the expectations. We shall, then, in this and the following chapter be interested in the extent to which knowledge of the way the teacher normally teaches (i.e., in his control class) enables us to forecast characteristics of his teachable students.

The third term of the equation carries the argument a step further. It reasons that the teacher is successful to the extent that his students can meet the demands imposed on them by the teacher's style of teaching. The more the students can meet the teacher's demands, the more successful is the teacher with respect to whatever purposes are served by the imposition of his demands. In short, a teachable class should facilitate the achievement of the teacher's purposes. The operation of the teachable class should represent a higher development of the teacher's style. In practical terms, we would expect two things: (a) fewer management problems in the teachable class (except in the unlikely instance of a teacher whose purpose is to create management problems); and (b) more accentuated "pure" or self-consistent role performance by the teacher. He should not only be able to do better the sort of things he is trying to do (in the control class); but he should be able to do these things with fewer distractions and fewer wasted motions. We shall, then, in this and the following chapter be deeply interested in the extent to which the modifications of teaching, caused by giving the teacher a room full of teachable students, are toward a higher, more self-consistent style of teaching.

Finally, the fourth term of the equation simply says that if the

above reasoning is correct, the teacher will perceive that the class is learning more of whatever the teacher is trying to teach. We have already noted the discrepancy between marks and achievement test gains and feel justified in rejecting the common assumption that achievement tests necessarily measure what the teacher is "really" trying to teach. The teacher's mark expresses his final, incontrovertible and professional judgment of the extent to which he thinks the student learned what he was trying to teach. And in nearly all cases this judgment was found to be more affirmative in the "teachable" classes. We shall not, in this chapter or the next, raise further questions about the fourth term of our equation.

Overview of General Trends in the Data:

Teacher #5

Our portrayal of the style of teacher #5 will be based on detailed examination of the 95 categories of data discussed in the preceding chapter, plus the 19 items of the Post-Meeting Reaction Sheet and Student Opinion Survey presented in Chapter 2. Thus we shall consider 114 discrete sorts of information about the teacher. These data are presented in tables 20 through 26.

The data are represented in two ways. First, the actual mean or median value of each category is given. Second, this figure is compared with the corresponding figures for the other 12 teachers, and is given a quintile ranking. That is, we show whether the figure is about at the average (Quintile C) of the 13 teachers, whether it is somewhat higher (Quintile B) or lower (Quintile D) than average; or whether it is quite deviate, with 10 or 11 of the other teachers being higher (Quintile E)

or lower (Quintile A). The reason for these quintile ranks is to give us a "base line." The composite picture of the control groups already presented represents the "average" (Quintile C) teaching, and we shall find it easier to understand teacher #5 by seeing how he differs from the "average" style rather than by trying to describe his style in absolute terms.

The same tables also include the corresponding data for the experimental class of teacher #5. The quintile ranks are again based on the distribution of control classes, so that one can estimate the significance of the modifications of teaching produced in the experimental class. Thus we see that teacher #5's control class asks fewer questions (two per period) than does any other control class. Then we note that his experimental class asks many more (23 per period); and finally we note that the rank of the satisfaction is in the top quintile of the control classes. In other words, teacher #5 moves from having fewest to having most questions raised by students simply by having a teachable class.

Let us begin our consideration of teacher #5's style by spotting some of the trends in the data. Table 20 shows the various sources of data and how many categories are contributed by each source. It also shows what per cent of the categories are ranked in Quintile C for teacher #5's control group.

We note that the operation of the control class is reasonably typical of the average control class (64 per cent to 88 per cent C ratings) with respect to observed teacher behavior and the 13 behaviors rated on the "Guess Who" test. Teacher #5 is most atypical with respect to observed student behavior, having only one of the 13 categories (or 8 per cent) in the middle range. The other three kinds of data, all

Table 20
Overview of Teacher #5's Style in his Experimental and Control Classes

Categories	Shifts of Quintiles from Control to Experimental-Percent of Categories					
	Number of Categories	% C Control	No Shift	Toward C	Away from C	More Extreme Reversal
Observation Schedule #1	28	64	36	11	42	7 4
Observation Schedule #2	13	8	45	16	8	8 23
Post Meeting Reactions	8	12	63		12	25 0
Student Opinion Survey	11	3	0	18	36	0 46
Sociometrics	6	17	17	50	33	0 0
Guess Who:						
Teacher Behavior	16	69	63	12	19	0 6
Student Behavior	16	63	63	0	31	0 0
Teacher Approval	16	81	50	6	38	0 6
Total	114					
Quintile Shifts represented in columns			A → A B → B C → C D → D E → E	A, B, D, E → C	C → A, B, D, E	B → A D → E A, B → D, E; D, E → A, B

reflecting student feeling about the course, range from 12 to 36 per cent average.

The next column, labelled "no shift" shows the percentage of categories that are the same in both experimental and control groups. From 0 to 63 per cent of the categories are the same; or, to put it in reverse, from 100 per cent to 37 percent of the categories are modified by the teachable students.

Next we note the categories (0 to 50 per cent) in which the experimental group is more like the average of the control groups; the per cent (12 to 42 per cent) of the ratings that shift from average (C quintile) in the control group to some other value in the experimental; the per cent (0 to 25) of non-average categories, quintiles B and D, that become more extreme (A and E); and finally, the percentage of the categories in which the control and experimental groups both deviate, but in opposite directions, from the "average."

Certain impressions emerge when we look at the shifts. The teacher's behavior, observation schedule 1, shifts in general to more personal freedom of the teacher to voice his opinions and feelings. The largest change in student behavior is the reversal, from quiet and somewhat apathetic to intrigued and active. The post meeting reactions shift from above average to even more liking for the classroom activities. The student's ratings of the course as compared to their other courses, shift from average or negative judgments to highly positive judgments. The sociometrics reveal a confused picture which we will want to consider carefully in our more detailed analysis. The major shift of the Guess Who ratings is from average to more positive.

Detailed Examination of the Effects
of the Teachable Class

In Table 21, the quintile ranks of the categories of observations of the teacher's behavior in the control class reveal that the teacher talks very little and the class a great deal as compared to other classes (#1, E and #2, A). There are also fewest comments generally addressed to the class (#4, E) and a correspondingly larger number addressed to persons, either the teacher (#3, B) or particular students (#5, B). Yet, for all this impression of person-to-person interaction, this teacher is unusually low in the per cent of comments about persons in the class (#9, D). But he is more likely than other teachers to offer his own opinion about topics (#11, B) and he appears somewhat less interested in conceptual meanings (#12, D). He tends to be somewhat lower than average on "professional" behavior (#15, D), which, in our category system, comprises reality-oriented creative participation. He is average in the expression of emotion except "facilitative humor," on which he is higher than average (27, B).

Summarizing, we see that teacher 5 has a high degree of person-directed interaction, expresses his own opinions a little more than average, and is less concept- and work-oriented than average. But he is for the most part "average" (64%, Table 20).

Giving teacher 5 a teachable class produced striking and dramatic changes. The largest shift (#9, D to A) is in personal remarks about students. About one sixth of his comments now refer to their peculiarities, interests, family, hopes, etc. He speaks much more impulsively—"acting out" his feelings (#13, C to A). He offers a great deal of advice, admonishment, and ideas about right and wrong (#16, C to A). More of his comments seem

Table 21
Observation Schedule #1, Teacher #5

Observed Category	Percent of Total Number of Statements - Means		Ranking Among 13 Control Classes - Quintiles	
	Control	Experimental	Control	Experimental
1. Statements by Teacher	51	55	E	E
2. Statements by Students	49	45	A	A
Addressed to:				
3. Teacher	40	48	B	A
4. Class	40	34	E	E
5. Particular Student	20	18	B	C
Topic, "Content"				
6. Ideational	89	77	C	D
7. Group Operation	5	2	C	C
8. Activity	5	4	C	C
9. Personal	0	17	D	A
Form:				
10. Descriptive	80	32	C	E
11. Subjective	11	44	B	A
12. Relationship	9	15	D	C+
13. Impulsive	0	9	C	A
Frame of Reference				
14. Technical	91	48	C	E
15. Professional	5	13	D	C+
16. Generalized Adult	4	26	C	A
17. Self-Concern	0	13	C	A
Number of Incidents per Class Period				
Emotionality				
18. Fight: Teacher	2	7	C	A
19. Threatening	1	2	C	C
20. Dependency: Rules	0	1	C	C
21. Flight: Breakdown	0	1	C	C
22. Escape	0	1	C	C
23. Irrelevancy	0	2	C	B
24. Pairing: Person	6	8	C	B
25. Group	0	2	C	B
26. Unidentified Affect	1	3	C	B
27. Humor: Facilitative	2	4	B	B
28. Disruptive	0	1	C	C

motivated by self-concern (#17, C to A), and the number of subjective opinions rises drastically (#11, B to A). He responds somewhat more to his students' interests (#12 and #15, D to C+). His "cover-the-ground" or routine-technical operation is lessened (#6, C to D; #10, C to E; #14, C to E). He has become more spontaneous in his expression of emotion (increase in 5 categories), he has become more dominant and central in the classroom (#3, B to A, and #5, B to C), and he even talks somewhat more (#1, 51 to 55 per cent of the time).

The increased personal involvement and spontaneity of the teacher is responded to by the Experimental class (Table 22). There is a striking increase in the number of questions asked by students (#7, from 2 per period to 23 per period, E to A). And hands are up wherever the teacher looks (#3, D to A). There are more comments offered gratis by students (#6, D to B) and answers are occasionally blurted out (#5, E to C+). The teacher has more students demonstrating, reading aloud, or presenting material (#8, B to A), and he gives less guidance by asking questions (#1, B to C). Interestingly enough, the experimental class, while far more active, remains, like the control group, a very orderly class (#9-13). In general, the shift in student behavior is toward increased initiative taken by students. And, in spite of the teacher's somewhat more central, privileged, and self-centered posture, the students actually carry a greater load of determining and influencing events in the classroom. The teacher, in "coming to life" as a person, has brought the students to life, too.

The Post Meeting Reaction Sheets are summarized in Table 23. The control and experimental classes are for the most part very well satisfied with the meetings—the control class mean is between A and B, and the

Table 22

Observation Schedule #2, Teacher #5

Observed Category	Number of Observed Instances Per Class Period		Ranking Among 13 Control Classes - Quintiles	
	Control	Experimental	Control	Experimental
1. Teacher Questions	36	32	B	C
2. Conscripted Answers	13	16	C	B
3. Raise Hands	33	115	D	A
4. Volunteer Answers	19	17	B	B
5. Speak out answer	0	4	E	C+
6. Student Comments	2	12	D	B
7. Student Questions	2	23	E	A
8. Lesson Participation	8	25	B	A
9. Study for other class	0	0	D	D
10. Whisper	1	5	E	E
11. Private Play	1	0	E	E
12. Disturb others	0	0	D	D
13. Blow off (violent, imp.)	0	0	D	D

Table 23
Post Meeting Reactions, Teacher #5

	Percent of days satisfaction is higher in		Mean satisfaction Quintiles	
	Control	Experimental	Control	Experimental
1. How did you feel this class meeting was today?	15	85	B	A
2. How often did you find yourself wanting to say things to the class—but didn't?	39	61	A	A
3. How worthwhile to you was what you learned in class?	50	50	A	A
4. How often were questions and comments of students really understood and replied to fairly and helpfully?	8	92	C	A
5. How clearly did you understand exactly what the class was supposed to do today?	15	85	A	A
6. How difficult was the lesson?	54	46	B	B
7. What part of the class was really working on the lesson?	15	85	A	A
8. How satisfied were you with the part you played in class?	25	75	B	A

experimental class mean is B. There are three shifts. Satisfaction with the teacher's responses to questions shifts from C to A (#4); satisfaction with one's own role shifts from B to A (#8); and over-all satisfaction with the meeting shifts from B to A (#1). The per cent of days on which the experimental class gives higher ratings than the control class gives a more emphatic picture of the same differences. The experimental class is consistently the more satisfied class, even though the numerical measures for the two classes are closely similar.

When the students are asked to compare their class with other classes through the medium of the Student Opinion Survey, Table 24, the results are more striking. The average rating goes from D in the control class to B in the experimental. The highest ratings, C, in the control group form a clear pattern: they delineate a psyche group but not a socio group. All the C ratings are with respect to items which describe a voluntary discussion group: it discusses interesting things (#3), the students like each other (#4), they are willing to do the work (#5), and they like the teacher (#9). It is true that these are not highly positive ratings as compared to other classes, but they do establish something about the class: it is primarily oriented to interpersonal relations. Compared to other classes, it is less meaningful (#1, D), makes less use of materials of a sort the student would like to go on with (#2, E), provides less basis for planning for the future (#6, D), points less toward other interesting activities (#7, E), provides less opportunity for practice of skill or talent (#11, D). It is looked forward to less (#10, D) and its activities (e.g., lessons) are less enjoyable (#8, D). Thus the control class sees itself as an average discussion group but one whose meetings have little value apart from the consummatory but tepid pleasure

Table 24

Student Opinion Survey, Teacher #5

Criteria	<u>Mean Ratings</u> 10 - extreme satisfaction 1 - extreme dissatisfaction		<u>Ranking</u> Among 13 Control Classes Quintiles	
	Control	Experimental	Control	Experimental
To what extent				
1. is each class meaningful and rewarding?	6.1	7.3	D	B
2. does each class make use of subject materials of the sort you would like to study and work with next year?	5.2	6.4	E	C
3. does each class deal with things that are interesting to talk about outside of class?	6.0	7.8	C	B
4. is each of your classes a group of students you would like to work with again next year?	6.8	8.6	C	A
5. are you willing to do the work required in each of your classes?	7.5	7.9	C	B
6. does each class further your plans for things you want to do after leaving high school?	5.7	7.3	D	B
7. has each class opened new interests or things for you to do?	5.5	7.6	E	B
8. is the time of each class spent on activities which you enjoy?	5.3	7.0	D	B
9. does each class have a teacher with whom you would like to work again next year?	7.6	8.7	C	B

(Continued)

Table 24 (Continued)

Criteria	Mean Ratings 10 - extreme satisfaction 1 - extreme dissatisfaction		Ranking Among 13 Control Classes Quintiles	
	Control	Experimental	Control	Experimental
10. do you look forward to going to each of these classes?	6.0	7.4	D	B
11. has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	5.6	6.3	D	C

of interpersonal interaction.

The experimental class rates itself tops as "a group of students you would like to work with again next year," (#4, A). It finds only average appeal in the materials (#2, C) and only average opportunity to practice skill or exercise talent (#11, C). There is much greater interest in the topics discussed (#3, B), greater motivation (#5, B), enjoyment (#8, B), anticipation (#10, B). The experience of the class is more meaningful and rewarding (#1, B); it furthers plans for "after high school" (#6, B) and it opens new interests (#7, B). And the students express more interest in working with the same teacher next year (#9, B). It appears that, whatever the reason, the students in the experimental group feel more adequate and self-confident. They not only see the class as a pleasurable discussion group; they also see it as contributing to broader educational goals.

Before going on to the remainder of the data, it may be useful to review the themes that have so far emerged, and to add some comments based on the observers' anecdotal reports.

1. Teacher 3 in the control group is a somewhat impersonal, technical-routine teacher who makes much use of student-teacher discussion. He has good "order," and the students tend to be subdued, presumably docile, and rather positive in their evaluation of the course. In the experimental group, the teacher is much more personally involved, acts more impulsively, expresses more affect, and is very much freer with moralizing advice or wisdom. The students are far more active, take much more initiative, and are somewhat more positive in their evaluations of the course.

2. The experimental class is psychologically a far "stronger" class, able to argue with the teacher and to cope with his stepped-up psychic (emotional) demands; and they find the interaction enjoyable.

3. In neither class is there much intellectual work or structured purposive activity. The teacher's emphasis in the control class is on "covering-the-ground." In the experimental class, the emphasis is on affective give-and-take at a rather high level of emotionality. There is much more stimulation, but it is primarily interpersonal provocation rather than the challenge of conceptual work and problems.

4. The subject is social studies, and the discussion is primarily centered around how to behave in a variety of situations. The method of learning is primarily conditioning, and the teacher's tactics include shock, sarcasm, "personal" remarks, moralizing, experience-swapping, etc. The subject matter and objectives of the teacher thus tend to legitimize his method of teaching; and it is a method which appeals to the experimental students in its own right.

5. The teacher is unable to implement this method in the control group. He is skillful in judging just how far he can go with his stress tactics, and he does not push the psychologically weaker control class. He sticks to the text, restrains his impulses, and maintains an equable level of politeness. Judging by his performance in the experimental class, he is "under wraps" in the control class, and the result is a pleasant but routine situation.

The question which all this raises in our minds is to what extent the teacher is exploiting the experimental class primarily to meet his own personal (rather than professional) needs? Two remaining sorts of evidence may throw light on this issue: the reward system of the group,

and the sociometrics.

The reward system is partly revealed in the "Guess Who" instrument. We would expect that a different pattern of behaviors in the two classes might well suggest a different set of standards; and differences between the students' perceptions of the extent of the teacher's approval of the various behaviors might confirm this hunch. Table 25 presents the data on 16 behaviors from the Guess Who test.

The first set of columns shows the frequency with which the teacher is perceived as engaging in the various behaviors. Compared to the control class, in the experimental class the teacher is seen as less of a questioner (#2, B to C), more attentive (#5, B to C-), slightly more likely to exert himself for the class (#6, D to C-), less likely to "talk out of turn" (#16, C to D-), and less likely to get upset when unable to answer questions (#17, C to D-). He is also seen as slightly more likely to blame and criticize the students (#11, C to B-). Thus we get a curious picture of the teacher as a "better" group member who, at the same time, may be somewhat more punitive—possibly because he expects and demands more from the students and thus can be disappointed more readily.

The experimental students see themselves as paying better attention (#5, C to D-), engaging in less disruptive behavior (#12, C to E-), less likely to "talk out of turn" (#16, C to D-), and more likely to keep going in the face of confusion (#8, C to B-). They also suggest a slightly higher level of personal stress: they worry a little more about how well they are doing (#14, C to B-), and they are a little more likely to become flustered by questions (#17, D to C-). From the first four of these items we get further confirmation of the "strength," including both involvement and self-discipline, of the class; and the last two suggest that this

Table 25

Guess Who, Teacher #5

Behavior	Teacher Frequency 1-always 5-never		Student Frequency 1-always 5-never		Teacher Approval 1-really glad 5-wish to prevent	
	Means Cont. Exper.	Quintiles Cont. Exper.	Means Cont. Exper.	Quintiles Cont. Exper.	Means Cont. Exper.	Quintiles Cont. Exper.
1. suggests new ideas when the group seems to be stuck.	1.7	1.6 C	3.5	3.6 C	1.2	1.3 C
2. continually asks questions in class	1.8	2.3 B	3.4	3.1 C	1.8	2.2 A
3. talks the most	1.6	1.6 B	3.5	3.6 E	3.7	3.2 C
4. usually comes up with answers	1.8	1.9 C	3.0	3.1 C	1.5	1.5 C
5. does not pay attention in class	4.1	4.4 B	3.4	3.8 C	4.6	4.6 D
6. bring in a lot of extra work on things relating to this class	3.2	2.9 D	3.6	3.7 C	1.5	1.3 C
7. usually thinks his or her idea is best	2.7	2.9 D	3.8	3.9 C	3.0	3.4 C
8. gets things done when most of the class is confused.	1.4	1.4 C	3.0	2.6 C	1.8	1.3 C
10. offers compromises when there are several sides being taken on topic	1.8	1.6 C	3.4	3.3 C	2.1	1.6 C
11. usually criticizes and blames other peoples' actions or ideas	3.5	3.1 C	4.0	4.3 C	3.8	4.0 C
12. disrupts the work of the class by clowning and fooling around	4.0	4.2 C	3.5	4.4 C	4.5	4.4 C

Table 25 (Continued)

Behavior	Teacher Frequency 1-always 5 never		Student Frequency 1-always 5 never		Teacher Approval 1-really glad 5-wish to prevent	
	Means Cont.Exper	Quintiles Cont.Exper	Means Cont.Exper	Quintiles Cont.Exper	Means Cont.Exper	Quintiles Cont.Exper
14. worries about how well he is doing	2.9	3.0	2.0	1.7	2.7	2.3
15. sympathizes with others when this is needed most.	2.3	2.5	3.0	2.9	2.5	2.2
16. usually talks out of turn	3.9	4.4	3.7	4.0	4.1	4.3
17. seems to get upset when unable to answer questions	4.1	4.8	3.9	3.3	3.2	3.3
18. presents ideas which influence the class	1.4	1.4	3.6	3.5	3.9	1.6

strength is not necessarily a sign of greater security—that is, it may have other roots.

The students' perceptions of the behaviors that will be approved (rewarded) by the teacher are much the same in both classes, although the many slight differences do form a consistent pattern. The largest differences are both open to somewhat conflicting interpretations. The teacher gives far less approval to "continually asks questions in class" (#2, A to C-). We may suspect that in the dull control class, such behavior would be a help; but in the active experimental class it would be an obstacle to discussion. It would also, perhaps, be a threat or challenge to the more self-centered teacher's dominance. Thus the teacher could disapprove either because he is trying to protect the class or because he is trying to protect himself. With respect to students who "present ideas which influence the class," the teacher is far more approving in the experimental class (#18, E to C-) although his approval is only average as compared to all the control classes. The teacher appears to allow (or yield) the students' "stronger" roles in the experimental class; and this view is supported by practically all the other shifts. He is slightly more approving of students who talk a lot (#3, C to B-), of extra work done by students (#6, C to B-), of students who are self-assured or possessive (#7, C to B-), of students who offer compromises during occasions of conflict (#10, C to B-) and of students who give sympathy to others "when it is needed most" (#15, C to B-). In short, the teacher is seen as giving more approval to group-building and ego-assertive roles. We take this as further confirmation that it is to the teacher's interest to have a "strong" group, for in such a group he can "let himself go."

The sociometric data, Table 26, are, at first glance, rather curious; but we shall attempt to show that they fit the picture and give it more focus. The curious thing is that the students have been found to like the class very much; in addition, we have the teacher's own testimony that the experimental class is the best class he ever had during his six years of teaching. One may, therefore, be somewhat startled to discover that the teacher prefers the persons in his control class more than in his experimental class; and, although the experimental students prefer the teacher slightly more than the control students, the preference is still no more than the average of the 13 control classes. It is obvious that the teacher and the students are able to distinguish between interpersonal liking on the one hand and self-gratification or satisfaction on the other.

The sociometric picture of the control class presents no problem. The teacher gives the students much more chance than they encounter in their other classes to participate and interact; hence all concerned have a better chance than usual to "become acquainted." The teacher, "under wraps" is no threat to the students, nor are they to him. Conversation is polite, demands few, and there are no management problems to speak of. The class tends to be smaller than most (23 students, as compared to 29 in the experimental group), and this contributes to cohesion. Thus it seems reasonable that the teacher, who has strong interpersonal curiosity and interest, could get to know the children as persons and under non-threatening conditions. Hence his B ratings of the students. At the same time, the smaller group with greater opportunity for interaction results in development of more relationship among the students; and the teacher tends to encourage rather than discourage these relationships. Hence the students' B ratings of each other, and their marked satisfaction with

Table 26
Sociometric Ratings, Teacher #5

Choice	Mean Ratings 1-strong liking 5-strong rejection		Ranking Among 13 Control Classes Quintiles	
	Control	Experimental	Control	Experimental
1. Teacher: work with Students	2.00	2.35	B	C
2. Teacher: chat with Students	2.00	2.21	B	C
3. Students: work with Students	2.63	2.44	B	A
4. Students: chat with Students	2.63	2.38	B	A
5. Students: work with Teacher	1.87	1.58	D	C
6. Students: chat with Teacher	1.91	1.72	C	C

the class's interactive activities. Finally, the teacher's lack of involvement, the superficiality of the subject matter, the routineness of the teaching, all conspire to give the teacher an average rating by the students: he is indistinguishable from all the other technical-routine teachers they have. The fact that they rate him a little higher to chat with than to work with is consistent with their perception that the interpersonal and discussion components of their experience are somewhat more rewarding than the worthwhileness and work components.

In the experimental group, the picture is very different. In a word, the teacher and students both find gratification in the provocative, interactive, emotionally charged discussion. But the teacher, with his lack of restraint, his sarcasm, his self-concern, his "personal" remarks is, as a person, threatening, and the students do not especially like him. In the same way, the students, with their active initiative, questioning, and greater emotional maturity provide the teacher with the foil he needs for his own need-meeting; but they also challenge and provoke him, as his defensive ratings (blaming and criticizing) suggest. Thus, although the teacher receives a large amount of gratification from the situation, he does not especially like the students as persons.

Both these interpretations are bolstered by the finding of very high interpersonal liking among the students. This liking is contributed to by all the participation-related factors present in the control class, but these factors are accentuated. There is more emotion shared, a condition which usually results in greater liking. But, in addition, there is a new factor: the emotional demand and threat of the teacher. Unlike a work threat which can be dealt with rationally, the emotional threat is

second. The first question was "to what extent does knowledge of the way

capricious, unpredictable, and, coming from a person with the power of the teacher, practically impossible to deal with. Hence there is a "banding together" against the teacher, with the cohesion based on greater identification of the students with each other's plight. The students mean more to each other, are more necessary to each other, and rate each other higher. At the same time, they see the teacher somewhat as an enemy, and they tend to shut him out—and this in turn would increase his perception of their threat to him.

Thus we conclude that the teacher and class are necessary to each other in the sense that they increase each other's gratification, but they do not feel especial warmth or identification with each other. We think that such a situation is entitled to be labelled somewhat exploitative.

Our final conclusion is that the teachable class did facilitate the teacher. He was primarily interested in obtaining a certain gratifying quality of interpersonal interaction. He was quite well able to recognize it when he had it—as shown in part by his ability to give us good models of the sort of student he wanted in class. His teaching changed the most of any of the thirteen teachers because the particular nature of his students exerts the strongest influence on his teaching. Both students and teacher had a more gratifying experience together, and the educational results, while somewhat better (as shown by grades) were less important all around than the greater rewards of the interpersonal interaction.

Returning briefly to our questions about the general "equation" at the beginning of this chapter, we find ourselves in doubt about the answer to the first question, and quite confident about the answer to the second. The first question was "to what extent does knowledge of the way

the teacher normally teaches (i.e., in his control group) enable us to forecast the characteristics of his teachable students?"

In the case of teacher #3, the observer would note the large amount of student interaction, the subdued manner of the class, the impersonal manner of the teacher, the dominance of the assigned text assignments, and the lack of conceptual inquiry. In order to answer the question we have posed, the observer would have to be able to diagnose two things: (a) with respect to what part of his functioning might a change in class personnel help the teacher, and (b) if such help were available, would he be able to utilize it. These questions are both important. Thus teacher #3 might be helped to have students who can participate more adequately and also students who have strong conceptual interests. But it is likely that he could use the help of the former—as we have seen—but not of the latter. Thus we conclude that our first question cannot be safely answered merely by observing the teacher's style in the control class. We must also take into account his own purposes and needs, his "readinesses" and potentials. And this is exactly what we do when we ask him simply to point out the students who in his opinion "get a lot out of class." For this selection is realistic and operational: the teacher's goal is to have more interaction of the sort he has already had with certain students. The model is concrete, and the "readiness" has already developed (provided, of course, the teacher really does select students according to the criterion of "gets a lot out of class").

The second question asks about "the extent to which the modifications of teaching, caused by giving the teacher a room full of teachable students, are toward a higher, more self-consistent style of teaching." In the case

of teacher #5, we think the preceding discussion has given a full and affirmative answer.

Characteristics of "Teachability" for Teacher #5

Having discovered that teacher #5 was facilitated by having teachable students, it is now appropriate to define in more detail what "teachability" means for teacher #5. We have already seen enough of the behavior of these students to offer some inferences about them. They are clearly "strong" personalities, able to enter into give-and-take interactions with an adult, capable of dealing with a rather emotional person who also has power over them, and capable of being aroused to a high degree of enthusiasm in at least some situations involving their active participation. They are also students who can identify with and be attracted to other students. These, then, are characteristics they "must" have if our observations are to be believed. And if we find, on the basis of clinical assessment, that they do indeed have such characteristics, then our confidence in the preceding analysis will be considerably greater.

Teachability is defined by the differences between "successful" and "unsuccessful" students selected for us by the teacher. The differences are ascertained by analyzing responses on a 405-item assessment test. For the "model" children selected by the teacher, 145 responses were found to be characteristic of the "successful" or teachable group, and 139 other responses were characteristic of the unsuccessful group. If a student had all the earmarks of teachability, his score would be 145. By subtracting the number of "unsuccessful" responses from the number of "successful" responses, we arrive at a score

for "net" teachability.

Teacher #3's classes were selected from the population of 130 students available to take the course. All of these students were tested, and their "teachability" scores computed. The experimental class was then composed of students having the highest scores, ranging from the 71st to 100th percentile for the population—with a mean score of 45.8. The control class was selected at random from the 129 students left after the experimental class had been taken out of the population. Its scores range from the 2nd to the 89th percentile, with a mean score of 18.1. The overlap between the distributions is accounted for by scheduling problems; three students who should have been in the teachable group had to be scheduled into the control group. This amount of overlap probably does not significantly vitiate the results. We assume, therefore, that the observed differences between experimental and control classes reflect differences in their "teachability." But teachability is contributed to by a very large number of items, and the teachability score of each student is made up of a different sampling from these items. A score of 35 for one student might be composed of altogether different items from those producing a score of 35 for another student.

In the analysis to follow, we shall work with the full range of items which discriminated between the students selected by teacher #3 as successful and as unsuccessful. The most interesting responses are "doubly discriminating;" that is, a response strongly accepted by the successful students would be strongly rejected by the unsuccessful students. Such items were contributed by five sections of the assessment battery, and will be designated as S+ U- items. In addition, some responses show significant agreement among the S (or U) students but no agreement among

the U (or S) students. These responses could be said to be characteristic of S or U but non-discriminating between S and U. They are represented as S+ or U- responses. Table 27 shows the number and percent of these three kinds of items contributed by the five most discriminating sections of the battery. Tables 80-83, in the appendix, list the items.

Table 27

Doubly Discriminating and Characteristic Items

Section of Test	Number of Items in Section	Number of Items			Percent		
		S+U-	S+	U-	S+U-	S+	U-
Words, Words (Semantic Differential)	70	8	9	9	11	13	13
Ways of Doing Things	48	23	9	6	48	19	13
Participation	50	13	4	7	26	28	14
Classroom Activities	40	12	11	5	30	28	13
Who Should Decide	24	6	3	3	25	13	13

We shall take up the items, section by section, in the order of their listing in Table 27. Then we shall turn to the Characteristic items in three sections of the test that contributed no doubly discriminating items.

1. Words, Words, Words. This is a word-association type test, and the responses of the student are fairly "deep." We shall consider this test first because it provides the evidence most susceptible to "dynamic" interpretation; that is, the items of this test are most likely to be "keynote" or thematic items.

The most striking difference between S and U students is the evaluation of "Myself." To the S students, Myself is safe and good. To the U students, Myself is dangerous and bad. In addition, the S students see Myself as more wat than dry—that is, more flexible and adaptable; and the U students see Myself as strong and big—that is, something to be concerned about or something that matters and intrudes itself in many situations. Thus the first keynote theme is the positive feeling toward the self of worth, security, and adaptability of the S students as compared to the negative feelings of badness, danger (fearfulness) and concern of the U students.

Both groups associate activity with Being Comfortable, with the U group seeing it as more active and, in addition, as bad.

Being Popular, for the U group, is highly potent—that is, they are deeply concerned about it; it is also flexible, it cannot be contained and nailed down. To the S group, Being Popular is hardly a matter of concern; it is conventional and inactive. In short, the U people worry about popularity whereas the S group takes it for granted.

Having Power is a matter of some concern to both groups, with the S group being the more concerned. At the same time, the S group also sees this concept as fairly rigid and conventional, which suggests that although it is important it is not particularly threatening.

The reactions to Girl and Boy also distinguish between the groups. The S students see Boy as loud, i.e., quite literally, noisy, and more figuratively, aggressive. Girl is little, light, and wat—that is, not a matter of concern, conventional, but somewhat flexible. To the U students, Boy is soft, lame, and fat—namely, secure, flexible, and passive; whereas Girl is gay, that is, very active. The S students appear to feel

they have control over girls and identify aggressiveness with boys, whereas the U students see boys as passive and girls as endowed with activity and life.

When it comes to work, the U students tend to be impressed with its "goodness" whereas the S students note its active or vital character.

It appears from these responses that the S students, more than the U students, feel more personally worthy, adequate, and acceptant of themselves. They consider striving for power to be important, and they are not anxious about it. They take popularity for granted, and their feelings about girls and boys represent healthy adjustments in our culture. And work is active and vital. The U students, more than S students, are anxious about popularity, have somewhat reversed feelings about the sexes, and admire work. Further, the U students see comfort as vital yet at the same time as somewhat bad; comfort is mixed with guilt.

2. Ways of Doing Things. The students rated the frequency of occurrence of the 48 "disadvantages" listed in this test. The significant discrimination is between "never" and "occasionally." On 23 items, the S students significantly chose "never" and the U students chose "occasionally." In the parlance of everyday life, the assertion that some interpersonal event or condition "never" occurs is a bit rash, and it bespeaks a good deal of self-confidence. On this assumption, the characteristic most significantly distinguishing S from U students is their self-confidence.

The ways the U students differ from S students provide a study in negative self-appraisal and interpersonal anxiety. The student sees himself as less adequate to interact with others, and he has less energy available at his command. Thus he more often encounters difficulty in talking to

others, expressing feelings, learning from others, asking for help, and becoming interested (items 96, 99, 116, 125, 126, 130, 132, 134). He displays lack of psychic vigor in more frequently becoming confused, distracted, forgetful, and inattentive (items 92, 93, 98, 103, 104, 105, 107, 110, 111, 114, 117, 121, 123, 127, 128). These difficulties occur in many situations but they tend to be manifested most frequently in the situations which most demand interaction, namely, with a small group of peers.

Of the nine items for which the S students significantly choose "never" and for which the U students have no common agreement, four items depict greater ease and productivity with the teacher, two further develop the theme of personal adequacy, and three extend the picture of security in interpersonal activity.

Of the six items for which "never" is significantly rejected by U students and for which the S students show no significant agreement, three portray unproductive relationships with students and teacher, and three further the image of distractability.

3. Participation. The fifty items of this test are keyed to five kinds of situations and five qualities of interaction in these situations. Each of the 25 combinations of situation and interaction occur twice: once as a "telling" (initiating, dominating) behavior, and once as a "listening" (passive) behavior. Thirteen items are doubly discriminating; that is, the S students are significantly high and the U students significantly low.

Of these 13 items, 9 represent telling or initiating behavior calling for vigor and/or risk-taking. The four "listening" items all involve either threat to the self or anxiety about interpersonal relationships.

More than the U students, the S students enjoy:

- (a) Sitting by themselves: thinking and remembering (items 77 and 91)
- (b) Awareness of feeling: reading about, telling one's own
(items 57 and 53)
- (c) Expressing affect: criticizing TV program, being active during
lively discussion (items 81 and 80)
- (d) Communication of ideas: hearing those of others, reporting own
readings, giving information (items 46, 78, and 67)
- (e) Problem-solving, cooperative: telling and listening to ideas
about problems "you all have" (items 86 and 73)
- (f) Persuading, dominating: trying to interest another in one's
hobby, keeping class discussion on the beam (items 84 and 86)

There are 14 additional items on which the S students are significantly high whereas the U groups are either divided or indifferent. Five of these items portray dominance in interactive discussions; three involve mutuality or cooperation, three represent giving or receiving relatively "neutral" information; and the other three are concerned with expression of feeling.

Finally, there are seven items significantly rejected by the U students but a matter of indifference or divided reaction on the part of the S students. Of these, five refer to expressing or hearing feelings (e.g., criticising or being criticized, intimacy).

4. Classroom Activities. The 40 items of this test describe more or less typical activities that go on in classrooms, and the students are asked to rate their worthwhileness. Presumably a worthwhile activity is one in which the student either finds personal self-realization or else

accomplishes some task whose demands he considers legitimate. Twelve items doubly discriminate, with significant acceptance by the S students and rejection by the U students. More than U students, the S students consider as worthwhile activities having the following qualities:

- (a) Autonomous, self-directing work: research for term paper, preparing a report "on your own," studying for a test, beginning a homework assignment (items 15, 27, 33, and 37).
- (b) Man-to-man relationship with teacher: discussing plans and progress (items 18 and 23).
- (c) "Structuring" by teacher: explanation and demonstration of ideas, making expectations clear and explicit (items 28 and 39).
- (d) Work-oriented interaction with other students: class "drill" on fundamentals, subgroup discussion, evaluation, and preparation of report (items 29, 25, 40 and 8).

Eleven further items are significantly accepted as worthwhile by the S students, whilst the U students are divided or indifferent to them. Of these, 8 represent work-oriented interaction (discussion, demonstration, explanation, cooperative preparation) with other students. Two represent "independent" work, and one involves getting help from the teacher.

Of the six items significantly rejected by the U students but matters of indifference or division among the S students, 4 call for active work-oriented cooperation with other students (planning, organizing, studying, working); one requires listening to explanations made by other students; and one involves grading or evaluating one's own performance.

5. Who Should Decide? The 24 items of this test designate decisions that "somebody" has to make. The student tells who he thinks should make each.

Six of these items are doubly discriminating, in that the S students agree significantly on one response whereas the U students agree significantly on a different response.

The responses of the S students show that they expect:

- (a) the teacher to lay down rules: whether you are to work alone, whom you sit next to, control of discussion (items 2, 20 and 24)
- (b) the student to judge and evaluate: how much help to accept from others, how "good" was the teaching, and when your skit is ready to present to the class (items 3, 10, and 23).

The responses of the U students to the same six items show that they expect:

- (a) the "crowd" to decide behavioral standards: whether you should work alone (class), how much help you should accept from others (committee), and control of discussion (class) (items 2, 3 and 24)
- (b) the student to avoid risk-taking: the teacher evaluates teaching, not the student; and the student decides whom he will sit next to, (items 10 and 20)
- (c) the teacher to "protect" the student: by helping the student decide when his skit is ready to present to the class (item 23).

In three further items, the S students significantly agree and the U students are divided: Evaluation of your contribution to the class discussion is to be by the teacher; evaluation of your committee's work is to be by you plus the teacher, and the committee decides for itself how to discipline its members. By contrast to these active judgmental activities, the items selected significantly by U students, with the S students divided, continue with the theme of following the crowd and evading responsibility for oneself: the committee is to decide what conclusions you should reach, the class is to judge student conduct, and the teacher is to help you decide when you should go see the counselor.

6. Other Differences. Three sections of the test yielded no doubly discriminating items. They do, however, display items on which there is significant agreement by either the S or U students. And these agreements, while less useful for the clear-cut discrimination of S and U students, do help round out the picture.

The Situations test contains 50 items. Each item presents a stress situation and two alternative ways to react. These alternatives are keyed to work, fight, flight, dependency, and pairing (intimacy seeking). The S students have agreement on only two responses: work. "When no one was sticking to the point," they "call for clarification of the topic" rather than getting "bored with the whole thing." "When the group agreed that it needed more information about how members felt," they "described my feelings to the group" rather than "wasn't sure I wanted to discuss my feelings."

By contrast, the U group shows agreement on 13 items. Of these agreements, five are on fight alternatives, six are on flight alternatives, and two are on pairing alternatives. Of the pairing items, one smacks of fight, in that it identifies with a person who criticizes another, and the second offers warm encouragement to someone who is seen as needing "a lot of help."

Thus the situations items further the picture of evasion and weakness, but add to it a quality of fight which can best be called irritation, suspicion, resistance, and resentment. The fight is covert, and inward; it might better be labelled rage.

The Teacher Description test presents paragraph descriptions of six teachers and asks the students to rank order them in three ways: the teacher who seems most typical of all teachers, the teacher you would be most comfortable with, and the teacher you could learn most from.

For typicality, the S students give high ratings to the "subject matter expert," the "challenger" and the "traditional professional" types. The composite picture is that of a teacher who sets the structure of activities, provides a variety of materials and activities which he has perfected over the years, and stimulates the students to inquire for themselves. This appears to add up to a rather high opinion of the competence and experience of teachers in general. And the S students pick the traditional-professional as the one they would feel most comfortable with.

The U students have no agreement on the image of the typical teacher. They do agree on the matter of comfort: the most comfortable teacher is the "buddy-buddy" type who makes few work demands and tries to be "one of the boys." The most uncomfortable is the "pupil-teacher planning" type, who demands that the students take on a great deal of responsibility for

planning, organizing, and evaluating their work. The U students also agree in rejecting the "rules" type (authoritarian) as someone they can learn from.

In short, the S students are there to learn, see teachers as teachers, and are most comfortable with a skillful, decisive, and experienced teacher. The U students are not interested in achievement, select a teacher who makes few demands for work, and reject the teacher who most clearly symbolizes the authority of adults.

The yaluga test asks the students to rate 60 items as to importance. The items are all rather abstract statements of values. The items are keyed to six general values or ways of life: social restraint and self control, adventure and initiation of change, withdrawal and self-sufficiency, altruism and receptivity, stereotypic-normative, and sensual enjoyment.

The S groups agree, with extreme positivity, on 21 items taken from five of the six categories. The sixth category, sensual enjoyment, is marked positively, but not extremely so. The following comments pretty well sum up the 21 statements: The S students

- (a) appear more actively desirous of making a better world for themselves and others;
- (b) appear more concerned with the needs and welfare of others, and are willing to go out of their way to help them;
- (c) appear to value intimacy with others;
- (d) appear to value self-sufficiency and independence, self-awareness and mastery of their affectual desires.

The U students agree on low ratings of five items. They strongly reject two: "Be at ease both physically and mentally without being too

ambitious and "Enjoy good food and drink with a group of friends." Since they strongly reject what the rest of the analysis would lead us to think they would want, it seems reasonable to conclude that they feel guilty about these desires, and that the desires are strong and need to be put down decisively. The other three items are agreed upon with wild positivity (downright negative compared to the S group), and look like a very lukewarm acceptance of aspirations they "should" value but have little hope of achieving: a well-organized and productive life, hard work and pioneering in some endeavor, and a life in harmony with nature and other men.

Resume

The Teachability Factor for Teacher 03

We collected and organized the above differences under the headings of Self, Emotion, Interpersonal Relations, Expectations of Teacher, and Work. The outstanding themes that emerged were:

1. Self:

Sense of personal adequacy (confidence, risk-taking, autonomy,
fear of self-evaluation)

vs.

Sense of fear and threat (risk-avoidance, rejection of
consensusness, submissiveness
to stereotypic goals)

2. Emotion:

Emotional Security and Range (awareness, expressiveness)

vs.

Defensiveness (flight, rage, covertness, fear expression,
fear of intimacy, fear of
criticism)

3. Interpersonal Relations:

Vigorous, interactive, mutuality (power, persuasion, dominance,
communication, concern for
others, cooperation)

vs.

Anxious, non-vigorous, other-directed (distraction, confusion,
fear of listening, intimacy,
fear to demand, follow crowd,
anonymity, evade responsibility)

4. Expectations of Teacher:

Strong, Professional, Useful (boundary-setter, helper, man-to-
man, stimulator, self-confident)

vs.

Protective, Undemanding (buddy-buddy, non-authoritarian)

3. Work:

Active, Cooperative, Self-directed (problem-solving, vital, purposive)

vs.

Avoidance (admiration, avoid responsibility for self, others, jobs)

The Fit Between Teachability and Teaching

It seems unnecessary to labor the point further that the teacher got what he wanted. We have seen the differences in his teaching of the experimental and control classes. We have imagined what sort of persons the teachable students must have been as judged by their behavior. We have studied the data from the assessment test data and find our impressions very strongly confirmed. In the instance of teacher #5, then, the demonstration that the teacher can be facilitated by giving him students of the sort he thinks he teaches best seems to be complete, thorough, and solid.

But what about the students? How well did this teacher fit their needs, interests, and capabilities? Does selecting students to facilitate the teacher automatically result in students having teachers who are good for them? Obviously the only way to find out is to repeat the experiment, letting the students (counselors, or others) choose the type of teacher to give to each student. In the absence of evidence from such an experiment, we can only reach a tentative and hesitant conclusion.

The first three basic themes seem to us to suggest that the students probably received as much as they gave. The teacher provided unusual opportunity for emotionalized, adventurous, interpersonal interaction, and all the data, both from the class and the assessment battery, suggest that the students should and could make good use of the opportunity.

The fourth and fifth themes, however, invite us to speculation. Teacher #3 doesn't seem quite to fill the bill for the teachable students. He is far more personally oriented, and far less "professional" than the teachable students seem to be calling for. His activities have a rather low component of work, and afford very little opportunity for self-directed problem-solving. The teacher tends to give his own opinion or some quasi-moral precept as the answer to questions raised by students; there is very seldom any translation of a question into a problem to be solved by the student's own effort. It seems likely that this teacher probably failed to challenge and stimulate the students' capabilities and possible needs for self-directed work and inquiry.

Thus we are inclined to doubt that the selection of the students to facilitate teacher #3 resulted in their getting the teacher who could best facilitate their educational development.

They are major limitations. The first limitation might well extend to the statement that a group of students who are not "teachable" might be identified. The second limitation is that the "teachable" group is not a homogeneous group. The third limitation is that the "teachable" group is not a homogeneous group. The fourth limitation is that the "teachable" group is not a homogeneous group. The fifth limitation is that the "teachable" group is not a homogeneous group. The sixth limitation is that the "teachable" group is not a homogeneous group. The seventh limitation is that the "teachable" group is not a homogeneous group. The eighth limitation is that the "teachable" group is not a homogeneous group. The ninth limitation is that the "teachable" group is not a homogeneous group. The tenth limitation is that the "teachable" group is not a homogeneous group. The eleventh limitation is that the "teachable" group is not a homogeneous group. 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The hundredth limitation is that the "teachable" group is not a homogeneous group.

Chapter 6

Effects of Teachability in Classroom Operation:
Four Case Studies

The most distinctive feature of "teachability" grouping is its assumption, consistently applied, that every teacher is a special case. Students who are facilitative of one teacher may not be so for another; and facilitation may itself mean different things from one teacher to the next. Certainly the detailed case study of teacher #5 portrays an unique individual, and the effects of his teachable class were uniquely determined by the nature of his interaction with the students.

Just because each case is unique there is little that any one case can establish beyond the fact that the procedure of "teachability grouping" seemed to be beneficial (or not) in that case. There is no reason to expect that the plan would work equally well for all teachers. If they are unique individuals, then individuality might well extend to the likelihood that a change in the composition of the class would make a difference.

The case for or against "teachability grouping" can perhaps be best explored by seeing what happened in the widest range of situations. Accordingly, we have selected the four teachers who differ most among themselves—their styles of teaching, the sort of classroom climate they typically produce, and our impressions of their purposes in teaching. We shall consider the same range of data that we utilized in our analysis of teacher #5, but we will demonstrate much less of the analytical procedure. The data are in the appendix (tables 40-79); what we present here is the shortest account that can clarify what the teachers meant by

teachability and what consequences resulted from their having teachable students.

Teacher #13: Classroom Operation

Of the thirteen teachers, number 13 is the most "academic-professional." The development of an understanding of algebra is the teacher's goal. His classes are strongly work-oriented and "intellectually" demanding. One gets a clear picture of teacher #13 from this telegraphic summary of the perceptions of the observers and from the category counts; tables 40-45.

Observers' Summary: The Style of Teacher #13

Re: Teaching Methods

The teacher uses modified lecture-discussion approach. Technique includes use of a problem (previously assigned or presently introduced) as a demonstration vehicle. Approaches problem through various means, pointing out advantages and disadvantages of each. Calls for questions from students with respect to his demonstration. Provides for student practice with problem either at board or at their seats. Board work normally involves having the student explain the steps that he took leading to problem solution.

Asks questions of students as a check to be sure that they understand and can explain principles and methods used in handling assigned problems. Seeks volunteers but will call on students who do not raise their hands. Allows time for students to think about the questions that he asks—works along with the student who is responding in effort to help the student in his thinking. Patient with "insightful mistakes." Doesn't rush through material. Makes his presentation in terms of what he thinks the student needs to know. Takes time to get feedback from students on points which are not clear to them. Normally does not go on to next point or problem until there are no further questions from students. Supplies answers only when there seems to be no student who can.

Sometimes teacher uses blackboard for a class "think-aloud session." Puts formula on board and raises questions with respect to it (why is this true, how do I arrive at this formula, etc.). Poses problem and acts as blackboard secretary as students suggest ways of dealing with it. Goes through equation with the class and points out need to see the significant steps and procedures. Places stress on understanding vocabulary of Algebra as well as the orderly steps of problem solution.

Teacher's statements normally fluctuate from technical, factual "givens" to professional relationship type. Sometimes gets above the

heads of the students as he moves to abstract theoretical level. Tries to stimulate thinking and will phrase his questions so as to have students deliberate. Emotionality not a major part of teacher's approach. He is supportive and commends correct responses, work done well, etc. Shows displeasure with playful, non-work oriented behavior. Sometimes tends to be moralistic about the importance of the subject and the need to work hard at it.

Re: Expectations for students

Essentially, the students are to be young apprentices in the field of mathematics. They are to follow the teacher who has been over the road many times before. The student is to let the teacher know when he has difficulty in following him over "the road."

Come to class prepared to work. Enter into discussion of problems set before the class. Try out and reason through the different approaches to handling various problems. Be somewhat curious. Raise questions when clarification or further explanation is needed. See the relationships among concepts and beyond specific problems to broader theoretical concerns. Understand and use the proper math. vocabulary. Feel free to enter into controversy over points related to issue, topic, or problem, but have logical explanation for opinions expressed. Try to follow through in doing problems. Volunteer for problems for by doing them or attempting to do them you help others and help yourself.

The observation schedules demonstrate that most of the talking (88%) is done by the teacher, and most of the statements are addressed to the class as a whole. 96% of the content is "ideational—straight algebra subject matter, and in 19% of his comments the teacher is dealing with relationships and principles. He is rated among the more "professional" teachers (quintile B), with 19% of his comments being directly responsive to the students' performances. The teacher is about average for subjective, personal statements, and none of his motivation seems to be based in self-concern. He is average in the expression of emotion, with, perhaps a tendency toward less interpersonal warmth and more facilitative humor. He sometimes acts impulsively and with "fight."

Participation of students, in spite of their limited opportunity to talk, is above average in most departments. More than average, they

volunteer and ask questions, speak out answers, and participate in presenting the lesson. They also whisper among themselves more, and engage in more episodes of emotional "blow-off."

With the experimental class, the picture is the same in most respects. The teacher makes more statements about the activities of the class and about its problems of operation. He utilizes feedback from the students more extensively ("professional" statements, are up 50%). His "relationship" statements remain at the same level; it is the "technical-routine" category that decreases. The teacher's emotional expressions now include no "fight," and his other affects are unchanged.

There is a marked shift in teacher dominance. He now asks 50% more questions, and the students only ask one-third as many. The class is far more orderly, with only one-quarter as much whispering and other disturbances.

In short, the teacher appears to be driving harder with a more work-oriented class. It moves with a faster tempo, with more direction from the teacher, and with less non-work and emotional behavior.

The impression of a higher level of work is strengthened by the post meeting reaction data. In the experimental class, the "part of the class really working on the lesson" is up (C to B); the student's satisfaction with his own performance is similarly up; the lesson is more often perceived to be difficult, and yet understanding of what the class "was supposed to do" is greater (from E to C). The learning is more worthwhile (B to A), and personal frustration is drastically reduced (D to A).

The student opinion survey also adds to the picture of a work-oriented class: it furthers plans for "after high school" (B to A), has a teacher

one would like to have next year also (B to A) and is more meaningful and worthwhile (B to A). At the same time its tempo deprives some students of the chance for practice they would like (A to C), and it is less interesting to talk about on the "outside" (B to C).

The experimental class appears to see the teacher's demands as coming more from the subject and less from the teacher. The frequency of all affective behaviors by the teacher is perceived less: less blaming and criticizing, sympathizing, talking out of turn, becoming upset, and "thinking his ideas are best." His ideas are seen as less influential, but he also seeks fewer compromises. In a sense, it appears that Algebra speaks through him. The frequency of student behaviors reflects to a lesser degree the same reduction of affect. The teacher's value system, as judged by what the students think he gives approval to, is mostly the same in the two groups, with a little more tolerance of student ideas and less blaming and less sympathy in the experimental class. The classroom climate is more "objective," with performance rather than feeling more strongly holding the center of attention.

The interpersonal relations, as shown in the sociometrics, provide striking confirmation of the above impressions. The teacher strongly prefers his experimental students to his control students, both to work with (E to A) and to chat with (C to A). At the same time, the teacher's greater demands and greater impersonality are reflected in his lower personal attractiveness: the experimental students prefer him less than do the control students (B to C, both work with and chat with). The students in both classes choose each other at a higher level of preference than average—possibly because they have a strongly developed common bond: they are the elite of the eleventh graders. For "chat with," the preference

is at the A level in both groups; for "work with," the level is B in the experimental group and A in the control. No confident explanation of this difference suggests itself; it may be that the greater work orientation includes a greater demand for individual effort and mastery, and possibly greater competitiveness and lesser attractiveness of socializing.

In summary, it appears that teacher #13 is most centrally concerned with teaching algebra as a "high-level academic course" and the experimental group realized this aim more fully than the control class.

Teacher #13: The Teachability Factor

The mean teachability score, S - U, is 30.6 in the experimental group and 24.4 in the control group. Both groups, of 19 and 20 students, respectively, were drawn from a population of 76 students, and the percentile ranges of the experimental and control groups as measured against the population are 45-100 and 3-95, respectively. Thus there is considerable overlap between the two groups.

In the face of this overlap and of the similarity of the means in the two groups (even though the difference is statistically significant at $p = .01$), we may expect the teachability factor (obtained from the model children selected by the teacher) to call for more differences than were observed.

The brief analysis to follow is based on the complete data from the assessment batteries of the "model" students. The data will be found in tables 46 to 49, in the appendix.

The clearest, most internally consistent distinctions between S and U students are with respect to values. The S students aspire to self-confidence, service to others, activity, fullness in living, a good

society, high ideals, and thrift. The virtues are the traditional ones, centering around an active, productive, and socially constructive life. The S students reject most of the inward life of feelings—self-awareness, personal pleasure, concern with "inner thoughts," or with "deep issues" of their personal lives.

Thus we get the impression of students who wish to accept the social world both as it is and as a stage for their own active striving, and who wish to take themselves for granted as active agents in this world. They wish to avoid being "personal" or "emotional." Their idea is to help, not sympathize. In the classroom, the preferences of the S students are for an active, achievement-oriented class, in which the teacher plays a strong role in setting the stage, providing ideas, giving explanations, and evaluating one's progress. The preference seems to be for activity dominated by impersonal demands and making use of ideas, goals, and materials provided by the teacher. They prefer a teacher who will provide a firm structure and, within that structure, can interact spontaneously with them. They see the teacher as a consultant, and can accept his evaluations of them. They tend, in their emotionality, to be heavily dependent on the teacher's decisions about what ought to be done. The teacher is to set the stage for striving, to help them strive, and is to tell them how well they are doing. But he is not to dictate, crack down, nor operate as an authoritarian.

With respect to peers, we find the same preference for cooperation, activity, and work. They like to communicate with other students, hear their thoughts, get their advice about action. But they strongly draw the line against criticism, evaluation, expression of "negative" emotion, and communication or penetration of "private" feelings and ideas. They

tend to reject "unstructured" interactive situations, probably seeing them both as unproductive and somewhat threatening. They like classwork only when its purpose is clear and the activities well defined.

With respect to emotional responses to stress, the S students tend to reject flight, fleeing from flight into work; they flight from hostility directed at them; and they tend to "pair" when other people get angry with each other.

The S students have more positive feelings about themselves, see work as more adventurous, probably strive for popularity, and their sexual associations conform more closely to the stereotype of "health"—than do the U students.

The U students, the sort seen by teacher #13 as "getting little out of class," are in many ways the mirror image of the S students. The U students reject the active, constructive, and social striving of the S students. The U students are much more interested in their own internal life of feeling and emotion. They enjoy criticizing, and evaluating each other; and hearing revelations of personal feelings. They reject the "planning" type of teacher, and they tend to get their behavioral standards from the class, rather than from the teacher or from within themselves.

The Fit Between Teacher #13 and His Teachable Students

The fit appears to be good. Both the teacher and the students tend to seek the demands of the classroom in the given nature of algebra rather than in the personal wishes of human beings. Both tend to avoid emotion and to act impersonally. The things the students expect from the teacher are also for the most part things he acts as if he expects from himself. The teacher is willing to set the stage and provide the opportunities for

striving, and he is delighted with the striving of the students.

At the instrumental level, both teacher and pupils can serve their purposes in the same way of life. At a somewhat deeper level of motivation, however, the teacher and students may have slightly different purposes. One gets the impression that the teacher is most deeply involved in conceptual and cognitive matters, seeking for logic, explanation, relationships, and information. The students, on the other hand, seem mostly to be seeking active striving in interactive activities. The cognitive elements provide the basis for the structure of these activities and are certainly acceptable to the students on this basis, but they provide more the occasion and authority for the game rather than being the purpose of the game. It seems to us that the teacher has developed a style of teaching which can accept and even encourage the students' active striving and at the same time channel it into the task of learning algebra as the teacher understands it.

The teacher was pleased with the teachable class. He felt that he achieved his purposes better, that the class required much less explanation of principles, that the class was more cooperative and more committed to learning algebra. It was, he said, the best class he ever had. Its mean IQ, incidentally, was 119.6 as compared to the control class' 119.5. The two ranges, respectively, were 105-159 and 106-160

Teacher #8: Classroom Operation

Teacher #8 is especially interesting because for him "teachability grouping" most certainly was not a success. It is possible that he got what he wanted in some deeper psychological sense, but, judged by most of the usual criteria of sound classroom operation, his teachable class was inferior to his control class. The question all this poses is: Are there

some teachers for whom teachability grouping does not make sense, or, what went wrong in the process of composing the teachable group for teacher #8.

The summary statement of the team of observers, based on their anecdotal records, presents a rather clear picture of the operation of Teacher #8.

Observers' Summary: The Style of Teacher #8

Re: Teaching Methods

Q-A discussion format in which teacher frequently gets involved in long, rambling discourses as he tries to make a point in the lesson. At times the teacher gives forth with a "sermonette" filled with moralistic platitudes that may or may not have anything to do with the lesson.

Presentation shifts between a tightly structured, technical approach and a highly disorganized, self-concerned approach. Thus, the teacher's statements typically fall within levels of descriptive fact-giving and subjective impulsive reactions. The self-concern enters in most frequently when the teacher becomes personally threatened, defensive, self-deprecating and when he feels forced to justify his teaching approach or his personal worth.

Self-concern is made more obvious by the teacher's bid for acceptance by his students as a 'good guy,' a friendly, joking, good-natured fellow who 'understands' the student. In this, he confuses the role of 'counselor' with his need for gaining acceptance. Consequently, he makes excuses for student behaviors which admittedly are disturbing to him and others in the class. He tends to over-react in his comments of praise so that these sound like grateful acknowledgements and thanks for students "being with him" on a point. His attempts at being humorous often turn into personally vindictive, smart-alec wise-cracks. Generally, humor in this class is nonfacilitative with students and teacher taking joking pot-shots at one another.

Fosters student participation in class discussions. However, the discussions frequently deteriorate to low-level opinionating, impulsive blurt-outs and superficial comments. The teacher's ambivalence about setting clearly defined limits triggers off situations in which the students take control of class away from him.

Displays much more enthusiasm and interest in the literature part of the course than in the grammar and English usage part. Teacher has broad background in the area of literature and likes to demonstrate this. He is somewhat of a pretentious intellectual striving to impress others with depth and breadth of his knowledge. He often gets into college-level materials and uses them as means to impress class members and observers.

Re: Teacher's expectations for students

Supposedly, students were to engage in class discussions, do assigned work, etc. Actually, and more precisely, their roles as students were never very clearly defined. Their expectations were vague since the teacher's goals were really hard to predict. They responded to the emotional cues and capricious whims of the teacher with wise-cracking, lack of attention, etc.

Re: Differences between classes (special note)

Exp/class—girls more prone to go along with teacher and wait out the storm. Passive. Small group of boys took class control away from Teacher early in first semester and running battle ensued for rest of year.

X and C boys more prone to engage in the harrassment of teacher—taking class away, dominating discussion, stalling and redirecting class, etc.

The quantitative data, tables 50-55 in the appendix, while less colorful, generally tell the same story. Starting with the observations of student behavior, we find that the control class has the largest amount of whispering and emotional episodes (quintile A). The teacher and students both ask few questions (quintile D), and the students volunteer few answers (quintile D). The class is about average for other kinds of student participation. What the figures don't tell us is that there were two sorts of activity. The questions were mostly confined to that part of the time when the teacher was going over the assigned lesson; at such times the students "understood clearly what the class was supposed to do today" (quintile B). At other times, when the teacher had lost his "authority," the class became more disorderly, and the teacher more "subjective" and self-concerned (quintile B). It was during these periods, too, that the teacher expressed a great deal of emotion (quintiles A or B in 11 of the 14 categories). In general, then, the picture is one of oscillation between the tightly-structured question and answer activities and the defensive, self-concerned, emotional activity; and both go on over a substratum of some 27 times in a single class period.

continual whispering.

With the teachable class, the emotional, subjective, impulsive activities become far more dominant. It is as if the whole balance of the class, between two poles, had been tipped completely to one side. There is almost twice as much whispering, three times the number of "blow-offs," and more disturbance of others by the students. The teacher attempts to keep control by talking 90 per cent of the time (instead of 74%). He "flights" into subject-matter, but not into work. He presents more ideas, with the increases being in the categories of "subjective" and moralizing ("generalized adult" - 0 to 14%). At the same time, the professional and relationship categories both drop from C to D. The emotional categories show the same picture of flight. He now exceeds average in only five categories. And we see that what he is "fleeing" from is interpersonal interaction with the class.

To the students, it is probable that the class seems rather pointless. The control group, more than the experimental, had some sense of purpose associated with the routine lesson coverage. In the control group, too, the teacher interacted more freely with the students; he could talk back and forth with them, and thus give some guidance to the discussion. In neither class could the students get guidance from purposive work or from the demands that must be met consciously in order to achieve some significant purpose. The experimental group was, to all intents and purposes, a leaderless and anarchic group. There was less guidance from lesson demands, and the teacher's flight into continual discursive talk took him out of personal contact with the class.

The students in the experimental class were especially frustrated, and they reacted with emotional blow-offs: insolence, attacks, rudeness—some 27 times in a single class period.

The post meeting reactions sheets, guess who, and student opinion survey all spell out the same picture. The PMR's suggest especially that the technical highly-structured parts of the lesson had been quite satisfying to the control group but that the other aspects of the class work were average to unsatisfactory. In the experimental class, the satisfactions of the highly structured aspects are not present, and, most emphatically, worthwhileness of learning has dropped (C to E) and rapport with the teacher (helpful and understanding answers) is down (C to D-).

The sociometric ratings show that the teacher had the same lack of enthusiasm for both classes ("work with" is D and "chat with" is E in both). The control class liked him (B and C) more than did the experimental class (D and D)—which is hardly surprising. What is interesting, however, is that the students in both groups have very low preferences for each other, quintile E. This suggests that the classes were actually quite demoralized, and confirms the characterization of the situation as anarchic.

Thus we wind up with the picture of these 10th grade English classes: basically, there is no firm authority residing in the teacher. He has neither #5's authority in interpersonal relations, nor #13's authority as an instrument of algebra. He has, at times, the authority of a technician, enforcing certain routine procedures with respect to clearly structured "lessons." In the experimental class, even this authority is mostly gone, and neither the teacher nor the class has anything to fall back upon. The teacher runs away from the problem and in doing so he loses contact with the class—which reacts with frustration and, at times, violence.

Teacher #8: The Teachability Factor

The mean teachability score and ranges are almost identical with those for teacher #13. The averages in experimental and control classes respectively

are 36.9 and 30.6, with the ranges (compared to the total population of 127 students) being from the 65th to 100th and the 9th to 97th percentile. Thus again we have considerable overlap, and we would again expect the differences between the "model" S and U students to be considerably greater than the differences between the experimental and control classes. Nevertheless, it is the "model" children who show us what the teacher wanted. Whether he got what he "really" wanted remains to be seen. Both classes contained 14 boys; the experimental had 15 girls; the control had 11. The items for S and U students are listed in tables 56-59 in the appendix.

The S students come through loud and clear. They want serenity, peace, and self-confidence, with personal issues resolved. They want a group which is lively, spontaneous in its expression of feeling, uncritical and non-evaluative; a group in which they are "accepted" as persons quite apart from performance as judged by socially-given criteria of merit. They want a teacher who does not play the role of expert and does not hand down rules; they want him to plan activities with the class, and they do not expect to be very comfortable with him. Their central interest is the class as a psychological milieu, and teacher, subject, and work are incidental. Their image of "girl" is a secure and good mother; "boy" is little, cute, and active; "myself" is important, passive, and slightly unsafe. Hostility is run away from psychologically, and warm interpersonal relationships are sought. One decides for himself which demands he will meet, and the class or gang "decides" the standards of conduct in the class.

These students reject work and projects that demand accomplishment; they reject all criticism and advice from each other; and they reject their own sensual impulses. They appear to be primarily other-directed, happy in the anonymity of a conflict-free, personally communicative, group.

The U students turn up with agreements on many fewer items than do the S students. They seem to want more self-discipline in the control of feeling, and they want critical feedback from each other. They do not seek personal sympathy from each other and they reject self-exposure and value privacy. For the most part, the U students contrast with that part of the picture of the S students that has to do with undemanding personal acceptance and emotional spontaneity without danger of reprisal.

The Fit Between Teacher #8 and His Teachable Students

The fact that neither S nor U students show any distinctive agreements one way or another about the teacher's role as leader or about individual autonomy is in itself suggestive: these are things to which the teacher is mostly indifferent. If we accept that a teacher would select students whose expectations of the teacher reinforce the teacher's expectations of himself—then teacher #8 would appear to have no very clear image of himself as a teacher.

Our description of the S students selected by teacher #8 seems to us to also be an excellent description of teacher #8 himself. In other words, he appears to have selected the students he could best identify with on a personal level. It may be that in his class these are also the students who "get most out of class," since he provides them with very little challenge or *raison d'être* beyond interacting with him in a pleasant manner.

It seems reasonable to conclude that the teacher got the sort of students he wanted. And, according to our observers, the experimental class was a better class than the control class (higher morale, better teaching) for the first month or so. But after that, it deteriorated rapidly—a classic example of a group which cannot sustain itself because a vital role is missing: the role of leader. And neither the teacher nor the students he has selected can develop this role.

Teacher #7: Classroom Operation

Teacher #7 is fairly representative of five of the 13 teachers. Her style is "routine-technical," which, in our category system means that she works out her lessons in advance and then takes the class through them. All lessons are handled the same way, with the advance "preparation," the homework assignment, and the class coverage of the assigned work. The subject is Geometry, 10 grade, and one gets the impression that the course is always the same, regardless of the students, the season, or the year. The Observers' summary of their anecdotal records conveys the picture:

Observers' Summary: The Style of Teacher #7

Re: Teaching Methods

Q-A approach. Teacher normally asks a series of rapid fire questions on the lesson material and homework problems assigned to the students. The teacher sets a highly structured class work situation and takes the students through a swiftly paced lesson. Students move through assigned problems which are done either at their desks or at the blackboard. Usual procedure is to cover the previous day's homework problems and then to take on the next batch assigned.

The presentations which the teacher makes (explanations of steps involved in working a problem, etc.) are highly impersonal and very much concerned with the details of the subject. Her delivery is a soft monotone. She gives the impression of being highly work-oriented—strictly business. While she is working through a lesson with the students there is little or no affect in what she says and does. Yet, if the lesson she had planned is somewhat short of the class period, she is observed to be more relaxed with the students and to get some pleasure out of watching the social interaction which the students engage in after finishing the lesson.

Re: Expectations for students

Students are expected to answer the teacher's questions. Do problems when called on. Be business-like and pay attention to the work at hand. Most of their responses are subdued in tone and sometimes inaudible. When the students enter into some kind of play or social conversation, the teacher is quick to reprimand and quick to get on with her business.

Re: Differences between classes

Observers note little difference between the way the teacher handles the classes and little difference in the behavior of the students. The only observable difference is a higher incidence of lack of attention on the part of the control class and the occasional discipline problem in that same class.

The behavioral data, tables 60-65 in the appendix, support the observers' description. Teacher #7 gives more time than most to participation by the students (33 per cent, quintile D). Her questions are somewhat more generally addressed to the class (quintile B), and she gives a great many more procedural instructions (19 per cent, quintile A). She is higher than usual in the straight "descriptive" or informational loading of her comments (quintile B) and lower on pointing out relationships (8 per cent, quintile D. Compare, for example, with the algebra teacher, #13, with 19 per cent "relationship" and 19 per cent "professional.").

Teacher 7 has about 7 per cent professional comments. She is typical of the whole group of teachers in expressing very little affect of any kind.

The experimental class differs only very slightly insofar as teacher behavior is concerned. There are fewer comments to control the group (Activity, B to C), fewer personal, that are subjective, and self-concerned; and a few more "professional" comments. Emotion remains at the same level, viz., practically zero.

Observation schedule #2, however, shows some differences. The teacher more than doubles the question-asking tempo, and all voluntary participation by the students is down—including both lesson-oriented and non-work behaviors. As with the other math teacher, teacher #7 drives harder and faster; but unlike teacher #13 who also "goes deeper," teacher #7 remains on exactly the same level of penetration of the subject matter. Her

experimental class is primarily more submissive and more resentful, whereas #13's class was more challenged and gained greater satisfaction.

The satisfaction measures show nearly all the changes going the same way: toward less satisfaction in the experimental class. They rate class meetings less satisfying, claim less understanding of what they were supposed to do, and perceive somewhat less of the class "really working" on the lesson. They are a little more satisfied with their own roles, however (D to C). They find the class less meaningful, the materials less interesting, the teacher and class less appealing, and contributing less to the development of interests and plans for "after high school."

The students see the teacher as a little more disruptive and tense; and a little less willing to exert herself for the group. She is also seen as more often coming up with useful ideas. The students see themselves as a little more likely to do things to help each other and the group. The students in both groups see the teacher as equally rewarding.

On the sociometrics, the teacher prefers both classes equally and more than most teachers prefer their classes (quintile A). The students in both classes have average preference for the teacher as someone to work with (quintile C) and less preference for her as someone to chat with (quintile D). The students in the control class have average preference (quintile C) for each other; the students in the experimental class prefer each other a little more to work with (quintile B). Thus although the students had somewhat less satisfaction with the classroom operations, they did not translate this into stronger dislike of the teacher.

students, and they would like to tell and hear opinions and personal feelings. They reject direct criticism of "personality", but

Teacher #7: The Teachability Factor

The mean teachability scores are 46.7 and 37.1 in the experimental and control groups respectively. The ranges, compared to the population of 114 from whom the classes were chosen, are from the 59th to the 100th percentile and the 2nd to 97th percentile respectively. Thus, once more, we have considerable overlap, and the expectation that the differences between the model groups of S and U students should be greater than between the two classes.

In view of the impression that the students in the experimental class must have been considerably more submissive than those in the control group to this ground-covering teacher, it is interesting that the control class contained 18 boys and 11 girls, whereas the experimental class contained 8 boys and 19 girls. The teachability factor is clearly more typical of girls. (As a matter of fact, all the students in the experimental classes of teachers #7 and #2 would have been girls had we considered only the test scores. But administrators have their rights, too.)

Let us now consider the nature of the teachability factor, referring to tables 66-69, in the appendix.

The S students are self-confident and positive in their outlook, as shown by their very large number and range of highly positive choices. They accept comfort and popularity as desirable and legitimate, but evaluate "having power" as bad. "Girl" is good and vital; "boy" is loose, dangerous, strong, loud, and big; "myself" is vital, secure, but rather weak. These girls are girls.

They prefer a mutual (rather than dominant or submissive) relationship to other students, and they would like to tell and hear opinions and personal feelings. They reject direct criticism of "personality", but

enjoy evaluation of behavior and ideas. They respond with work to practically all emotion—trying to remedy the situation rather than being provoked.

They value activity, adequacy and trustworthiness. They prefer classroom activities very much like those the teacher provided: take notes while the teacher lectures, have teacher assign practical exercises, listen to teacher explain . . . , have teacher lead a discussion in which principles are explained, begin homework assignments, explain a homework problem to the class, get individual help and instruction from the teacher while doing class work, grade or evaluate your own performance, discuss class material.

They see the "challenging" teacher as the one from whom to learn most. The "planning" and "challenging" teachers are most typical; and the "planning" and "traditional-professional" are most comfortable. They tend to reject the "rule giver" or authoritarian teacher as uncomfortable, and they have no particular feelings about the "buddy-buddy" type teacher. In short, they prefer a teacher who is work-oriented, who will provide a firm structure for activities, and who can stimulate them with direct demands. They would like a cooperative relationship to him, and they do not seek a warm personal relationship.

In short, these students expect to work hard under the supervision of adults, they enjoy interactive communication with each other, they are constructive and work-oriented in stress situations, and they have little wish to dominate others.

The Fit Between Teacher #7 and Her Teachable Students

The fit seems good, and the questions one might raise have to do, not with what happened in class, but with what other things might have been

valuable to the students. As for what happened, the students clearly had a strongly work-oriented teacher who kept her distance psychologically, who provided a continual barrage of stimulation in the form of specific clear demands, who did a good deal of explaining, and who, while not a "planner," nevertheless discussed in detail what the activities would be and how they were to be carried out.

The questions one might raise stem from the impression that the fare offered the students was rather "thin," subdued, and colorless. These are students who tend to be active in work and interactive with each other. For the most part the teacher suppressed interpersonal interaction except when there was time left over after the lesson, and at this time she allowed the students to visit and buzz quietly among themselves. The teacher had no objection at all to such visiting under such conditions, and it therefore seems reasonable to wonder whether a way could not be found to allow more of the work to be motivated and vitalized by utilizing more of the interactive potentials and interests of the class. To this teacher, having work-oriented students merely meant the opportunity to step up the pace, and to become even more dominant over the class; to another teacher, such a class might be capable of accepting a good deal more responsibility for planning and thinking about its own progress, next steps, and logically required activities—with consequently greater involvement, motivation, and satisfaction.

Teacher #14: Classroom Operation

Teacher #14, along with #6, displays yet another pattern. It is a pattern marked by flexibility and variety, by the day-to-day development of the course through diagnosis of the responses of the students to the

work. The course is American Literature, 11th grade level. The Observers' Summary of the anecdotal material gives us a beginning impression:

Observers' Summary: The Style of Teacher #14

Re: Teaching Methods

Makes use of several different kinds of activities including student-led discussions, individual research projects, play reading and acting, writing skills, lab sessions, etc.

Attempts to develop new interests and critical taste in reading outstanding literature—encourages watching of quality TV shows, movies, plays. Has personal enthusiasm for literature and drama which he tries to communicate to students. At times, he plays the role of literary critic . . . giving rather routine reviews of some literary works.

Spends much time in giving instructions and announcements having to do with future assignments. Goes into elaborate detail on this matter.

Strives to be a friendly, good natured fellow while at the same time serving as expert consultant and counsellor. Can be somewhat vindictive when crossed. Sometimes insinuates emotionally charged or seductive statements into class discussion, presumably to get reaction from students; some of his comments reflect and enhance his self-esteem.

When dealing with subject content the teacher's statements range from thought-provoking, inquiry-oriented sort to factual coverage of technical details. His presentations are often much more full than necessary to make his point—resulting in loss of thrust and restlessness among students. When leading class himself he controls things by sheer speed and energy of his detailed presentation and instruction.

Standards of conduct in class tend to be liberal in that students are free to move about, talk with one another during "lab" writing or buzz periods. When noise level or disorder is high, the teacher calls this to the attention of the class, often with little effect. During individual work periods teacher walks around seeking to be useful to students.

Frequently responds to penetrating questions by bringing discussion back to more factual considerations.

Re: Expectations for students

Work creatively on task (individual projects, etc.) to which they are personally committed.

Engage in class discussions—try to extend beyond factual material.

Student-leaders expected to prepare materials to stimulate discussion and point up important issues.

To be independent workers—assume responsibility for doing things on their own.

To be audience for teacher's commentary and fantasy

From tables 70-75 in the appendix, it appears that this teacher searches for meanings more than most. "Relationship" and "professional" are in the A quintile. He directs attention to explanations, themes, and basic characterizations in the literature. He tends to address his comments to particular students (quintile B) and expresses a great deal of encouragement and support to them ("pairing, person," quintile A).

Given the teachable class, his behavior changes in many ways. The students are given twice as much time to talk; the teacher's comments about procedures, group progress, and personal characteristics of the students drop out almost completely, with a corresponding increase in comments related to subject matter. He offers seven times as many personal opinions, reveals himself much more (quintile C to A) in self-concerned statements, and halves the number of moralistic "generalized adult" statements. He expresses a great deal more warmth to the group and there is a small increase in "pairing" with individuals.

The observations thus show us a generally professionally-oriented teacher, with increased time spent on subject matter, many more expressions of personal opinion by the teacher, and somewhat more warmth expressed by the teacher to the group.

The student behaviors are quite interesting: the only difference worth noting from observation schedule #2 is that the experimental class

is more orderly (except for whispering, which remains at the same relatively high level (quintile B). The number of questions and comments by the students is about the same, as is the number of questions asked by the teacher. There is no evidence of a change of pace or of stepped-up demands.

Most of the differences in student satisfaction with meetings favor the experimental class, which is higher with respect to general worthwhile-ness of meetings, less frustration, helpful responses by teacher, part of the class seen as work-oriented, and satisfaction with own role. As compared to other classes the students have, the control group rates their class lower than do all the other control groups: the student opinion survey shows eight E quintile ratings and three D quintile ratings. The experimental class is higher by one quintile on all but five points: meaningfulness of class (E), wish to work with same students next year (D), further plans after leaving high school (D), development of new interests (E), and enjoyableness of activities (E).

The Guess Who shows the teacher nearly average in most of the categories in the control class. In the experimental class, he is perceived as less possessive, more critical of students, more worried about his own behavior, less likely to get upset by questions, and less influential with his ideas. The most marked change the students see in themselves is the frequency of worrying about how well they are doing (D to B). The other five changes are small, but add to a lesser perception of responsible, group-oriented behavior. The approval of the teacher is perceived mostly in the same way in both groups. The experimental class detects much more approval for worrying about how well one is doing (E to C) and they see the teacher as slightly more permissive in re sympathetic and

inattentive remarks. What comes through most clearly in the perceptions of the students is the teacher's own greater self-concern, which is reflected in similar concern of the students.

The sociometrics show the teacher preferring both classes alike (quintile B). The students in the control class prefer the teacher at the E quintile level; those in the experimental prefer him at the D quintile level. The students prefer each other a little more for "work with" in the control group—quintile A; and the same for chat with in both groups—quintile B.

In summary, teacher #14 becomes more subject-oriented, more free with opinions, warmer, and more self-concerned in the experimental class. The students respond to him with more satisfaction in those dimensions which are close to the class and its interactive processes.

Teacher #14: The Teachability Factor

The mean teachability scores are 38.7 and 26.6 in the experimental and control groups respectively. The ranges, compared to the population of 224 students from whom the classes were chosen, are from the 75th to 100th percentile and from the 6th to 96th percentile. In both classes there were 19 girls; in addition the control class contained 7 boys and the experimental had 9.

According to tables 76-79 in the appendix, the S students regard "myself" as secure, active, and potent. "Girl" is good, "boy" is good, active, and potent. "Being comfortable" is good, secure, and potent; "work" is potent and passive. It appears that all these concepts are "potent," that is, matters of importance; and for the most part they are accepted as positive. This same lack of constriction is found in the emotional responses. Unlike teacher #7's S students, whom these students

resemble in many ways, teacher 14's S students agree on a wide range of spontaneous behaviors; they return flight and annoyance with work, but they also, depending on the situation, can hit back, express warmth, and be grateful for someone on whom to be dependent. Their values also reflect a wider range of "living;" they wish to be conscientious members of society at the same time they wish to be self-realizing, adventurous, and productive. A great range of aspirations seems important to them.

In the classroom, these students are quite positive in their liking for a wide range of activities. They select 7 that are clearly teacher-dominated, 6 that involve cooperative work with other students, and 4 that require working more or less autonomously on one's own. With other students, they enjoy expressing feelings and advice, hearing what the other fellow has to say, evaluating process problems in their groups. The only rejected situations are those in which another student is recounting some event in which the listener did not share (viz., a football game, last year's committee); they also reject "making a spur-of-the-moment speech about himself to the class" and one can see several hypotheses that would explain this rejection.

With regard to the teacher, they seem to prefer an expert who interacts with them; the "subject-expert," "pupil-teacher planner," and "challenging" teacher is nominated for "learn most from," and the "subject expert" and "teacher-pupil planner" types are people they would be "most comfortable with. The fact that they choose the same types for comfort and learning suggests that learning is part of their way of life, not just something imposed on it. (The average correlation between "learn from" and "comfortable with" choices was .30 in the factor analyzed population of 216 students.) Of the ten decisions agreed to by the S students, six are

to be made by "you plus the teacher," two by a committee, one by the teacher, and one by the class. It appears that these students tend to prefer cooperation rather than independence when it comes to situations in which they are in fact interdependent with an adult.

The Fit Between Teacher #14 and His Teachable Students

The S and U items for teacher #14 have been analyzed very intensively to see what sort of need of the teacher might best be met by his teachable students. The research team formulated the conclusions:

1. to be needed by his students. That is, he needs to have his students rely on him and to view him particularly as a "guide" and "wise counsellor" and not as the strict disciplinarian. He needs to be accepted as a good person, one whom the students can trust and on whose judgment they can depend;
2. to have feedback from his students. That is, he needs expressive students who will be responsive to him and from whom he can get further stimulation. Thus, he needs to have active participation and the reassurance that his students are "with" him;
3. to be able to demonstrate his capacity and knowledge. The students may serve as audience in this respect or as participants in a discussion on a topic of particular interest to the teacher;
4. to have students who are cooperative, responsible and reasonably self-controlled. With such students support and acceptance is more readily possible for him so that "disciplinary measures" would not have to be used. The teacher, thereby, can reinforce the image of the "good person" rather than the image of the "punishing person;"
5. to avoid the free-wheeling, independent unburdened student as well as the hostile, unwilling, negative student. He needs students who come toward him rather than those who do not need him or who turn against him.

The agreement between these points, the teachability factor as already presented and the observations of the teacher, seems clear enough to require no further comment.

But it is one thing for the students to be able to meet the teacher's

needs and another, perhaps, for the teacher to be able to meet the student's needs. Obviously we don't mean to suggest that the teacher should meet all the students' needs, but equally obviously those needs which most directly influence the educative outcome of classroom experience ought, at least, to be identified and considered.

From this point of view, there does appear to be a conflict of interest between the teacher and students: the students appear to be seeking a cooperative relationship in work with the teacher, whereas the teacher appears more concerned with establishing his role of counselor and wise man. That is, the teacher has no hesitation about interacting with the students, but the interaction is primarily to their personalities, not to their roles as students engaged in work activities. This "counseling" relationship and accompanying warmth was indeed responded to with greater satisfaction by the students, but it nevertheless very probably failed to meet (or stimulate) their more central needs and capabilities (at least in the classroom) for active, work-oriented, shared, purposive action.

What happens then? If he achieves a higher development of his "style" will it show up in changes of his own values and attitudes?

With these questions in mind, we administered the 405-question assessment battery to the students and teachers at the end of the year as well as at the beginning. We planned to factor analyze the initial and final data in order to bring major patterns of shifts out into the open. Unfortunately, we were unable to secure funds for a study of all the classes, but, thanks to the Chairman of the Education Department (University of Chicago), Professor Francis Chase, it was possible to do a "pilot study" of the changes occurring in connection with one teacher.

Chapter 7

Changes During a Year of Teaching: A Pilot Study

The selection of students determines the nature of the class with which the teacher is confronted on that shiny new first day of the school year.

If it is a "teachable" class, the teacher has the advantage of starting off with students like those he has considered successful in the past. Presumably he will have fewer "management" problems and will be off to a better start toward the achievement of his purposes with the class.

But what happens then? Does the initial advantage continue? Is the initial relationship maintained intact during the year or does it change as a result of shared experience? Is there some image of a mature, "good," or more educable group toward which the experimental group, more than the control group, will tend? Or will the values and attitudes (etc.) of the two classes become more similar due to the strong influence of the teacher over both? And what sort of "growth" happens to the teacher? If he achieves a higher development of his "style" will it show up in changes of his own values and attitudes?

With these questions in mind, we administered the 405-question assessment battery to the students and teachers at the end of the year as well as at the beginning. We planned to factor analyze the initial and final data in order to bring major patterns of shifts out into the open. Unfortunately, we were unable to secure funds for a study of all the classes, but, thanks to the Chairman of the Education Department (University of Chicago), Professor Francis Chase, it was possible to do a "pilot study" of the changes occurring in connection with one teacher.

Accordingly, from January 1 to June 10, 1961, and in the absence of the principal investigator, Alan Oppenheim, Henry Peterson, William Hoock, and Stephen Perls (until March) made the pilot study. A great deal of effort was involved in working out adaptations to the required Univac routines, and Allen Herzog was the liaison man between the research team and the operations analysis laboratory.

The Method of Analysis

The control and the experimental class, along with their teacher, were regarded as a single population. The items of the assessment test, from the pre-and post-administrations (separately treated), were studied. The 226 items having the greatest variance (and therefore discriminating power) were selected to feed into the computer. The computer was kept running until it had "pulled out" six factors, or self-consistent clusters of items from the pre-test data and from the post-test data. (The method involved an initial selection of orthogonal factors and subsequent Varimax treatment, equivalent to rotation to simpler structure.) The six pre-test factors accounted for 28.9 per cent of the variance within the pre-tests. The six post-factors accounted for 29.1 per cent of the post-test variance.

The items significantly contributing to each factor were identified and studied. It was found that these items could be sorted out and classified, with each sub-group yielding a component sub-theme within the broader factor. The themes were described and then, on the basis of these themes, a general characterization of the factor was concocted.

In addition to telling us which items were "significant" for each factor, the computer also told us the loading of each factor within the test responses of each student and teacher. That is, it told just how

strongly each person "has" the factor. The persons with significantly high or low loadings (+1 or -1 S.D. from the mean) were then studied. If a significantly greater number of experimental students had high loadings and a corresponding number of control students had low loadings on a factor, then that factor would be considered to discriminate between the two classes. Since we also had the loadings of each factor on the teacher, it was possible to identify the factors the teacher had in common with the teachability students. And, since the analyses were made at both the beginning and end of the school year, it became possible to attempt to portray the growth of the classes in relationship to each other and to the teacher. Finally, since teacher #14 was chosen for the pilot study, we can compare the information from factor analysis with the other information presented in the preceding chapter, and thus discover something about the relative contributions of the different sorts of analyses.

The plan of this report will be to present first the factors on which the experimental class has significantly high or low loadings as compared to the control class and on which the teacher has significantly high or low loadings. These factors will tell us what teachable students have in common with—and in opposition to—the teacher. Then we shall consider the factors on which the experimental class or the teacher (but not both) have significant loadings; and these factors should suggest the sort of influence the teacher and the class may potentially have on each other. We shall go through both the beginning and final factors in this fashion, and will cite other evidence from time to time to illuminate the discussion. Finally, we shall compare the results from the beginning and final tests, and try to answer our questions about changes—at least

with respect to the case of teacher #14.

The factors to be considered are:

	<u>Pre-test factors</u>	<u>Post-test factors</u>
1. Teacher and E class both high	I	I'
2. Teacher and E class both low	III	V'
3. Teacher high, E class low	IV	
4. Teacher low, E class not significant	II	
5. Teacher high, E class not significant		IV'
6. E Class high, teacher not significant		II', III'
7. Neither teacher nor E class significant	V, VI	VI'

The Initial Communality Between Teacher #14 and His Teachable Class

Factor I of the pre-test battery is significantly high for both teacher and experimental class. Its general characterization, component themes, and pattern of significant items:

(a) General Characterization

This factor is dominantly concerned with cooperative work-social interaction. It is composed of variables with highly positive loadings indicating an optimistic, confident approach to school work. Students high in this factor would be characterized by social skills, relaxed confidence in their ability to achieve goals and self-assurance in their ability to compete successfully for the rewards of life. All of this might be summed up as high ego strength.

(b) Component Themes

Dimension A reveals an active imaginative concern for getting things done. A variety of work situations are perceived positively, especially those which allow opportunity for individual initiative and self-expression. High self-assurance is expressed while dealing with a variety of mental, physical and social tasks.

Dimension B presents a consistent preference for engaging in co-operative group activities. It includes the ability to handle and feel comfortable with a variety of participant roles. Thus one can follow the lead of others, make appropriate member contributions, or take responsibility for leadership.

Dimension C reveals a positive and constructive attitude toward work and emotionality. Thus, when confronted with stress from task demands or from emotionally-charged situations, performance would tend to be adaptive rather than maladaptive.

Dimension D consists of outgoing concern for the welfare and interests of others. There is a tendency to "accept" persons and to want to get along well with others.

Dimension E demonstrates a respectful, somewhat formal attitude toward teachers, with the student seeking to establish a relationship based on work. Teachers are viewed as friendly and cooperative, but not to be relied on for intimate personal-social gratifications.

(c) Component Themes

Dimension A reveals high affectivity and acceptance of impulsive expressions. One tends to be intimate in his relations with others. Intimacy, however, is to serve one's own needs rather than to foster a

(c) Table 28. Numbers of Items Contributing to the Dimensions of Factor I

Sections of the Assessment Battery																		
Dimension:	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		R.G.		Val.		Words	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	4	—	6	—	—	—	—	—	—	—	1	—	2	2	4	—	—	—
B	11	—	6	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—
C	3	—	9	—	—	—	—	—	3	—	4	—	2	1	2	—	—	—
D	—	—	1	—	—	—	—	—	1	—	2	—	—	—	3	—	2	—
E	1	—	1	—	4	—	1	—	—	—	1	—	—	—	—	—	—	—

Factor III provides a very clear picture of things the teacher and his experimental class tend to avoid:

(a) General Characterization

This factor pertains to curiosity about interpersonal and personal motivation. The psychological feelings and personal experiences of others as well as of the self are a primary concern. There is not so much interest in cooperating with people as there is in knowing something personal about them. Students high in the factor would tend to be socially active, interested in others, self-concerned and low in work orientation. Their self-concern would be somewhat narcissistic, and their work negatively would probably be covert and indirectly revealed.

(b) Component Themes

Dimension A reveals high affectivity and acceptance of impulsive expressions. One tends to be intimate in his relations with others. Intimacy, however, is to serve one's own needs rather than to foster a

mutually close and interdependent relationship. Though self-protection is sought through association with others, there is, nevertheless, some fear of being controlled by others. Situations in which one might give something of himself to others are viewed with suspicion and are reacted to with hostility or avoidance.

Dimension B presents an unfavorable attitude toward work. There is lack of commitment to tasks, and indifference to the importance of work. There is a tendency to reject working hard and to resist becoming involved in work-study activity that requires application of effort and self-discipline. There is a tendency to become bored with and somewhat critical of the work contributions of classmates.

Dimension C reflects concern for comfort and preference for a life of pleasure and minimal self-restraint.

Dimension D reflects preoccupation with one's own activity. One tends to be introspective and self-absorbed when alone, and one reveals his feelings to others primarily as a way of testing them.

(c) Table 29. Numbers of Items Contributing to Dimensions of Factor III

Dimensions:	Sections of the Assessment Battery															
	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		R.G.		Val.	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	1	—	13	—	1	—	—	—	2	6	1	—	—	—	3	—
B	—	4	—	1	1	—	—	—	2	3	—	7	3	—	1	2
C	—	—	—	—	—	—	—	—	—	—	—	1	—	—	6	1
D	—	—	—	8	—	—	—	—	—	—	—	1	—	—	3	—

Class activities, structured and organized by the teacher, are rejected.

Dimension B shows rejection of routine school work and avoidance of

The Initial Opposition Between Teacher #14 and
His Teachable Class

The first two factors, common to both teacher and class, present a strong picture of cooperative, interactive, work-oriented activity, together with avoidance of concern with personalities, either others' or one's own.

Factor IV brings in a note of conflict, for the teacher is high on this factor whereas his experimental class is low or rejecting of it. The rejection of the factor by the class is entirely consistent with the first two factors; it adds little to the picture. But the teacher's high loading suggests some of the motivation that may lie behind his flexible style, with its variety of activities and its active encouragement of rather "free" participation by students:

(a) General Characterization

This factor is concerned with rebellion against authority and rejection of work strictures imposed by adults. Peers are accepted and cooperated with, but this is done with a suggestion of threat and suspicion. One is confused about—or rejecting of—personal values of all sorts. Students high on this factor would tend to be hostile and uncooperative in their relationships with teachers.

(b) Component Themes

Dimension A shows rejection of teachers who use their authority as a means to personal control or direct contact with students. Power is evaluated negatively and is perceived as threatening. A close work association with the teacher tends to be unrewarding and uncomfortable. Class activities, structured and organized by the teacher, are rejected.

Dimension B shows rejection of routine school work and avoidance of other people—e.g., a counselor who concerns himself primarily with the

personal responsibility and commitment to work.

Dimension C reveals a tendency to affiliate with others and to take a negative position with respect to popularity.

Dimension D reflects negative and/or neutral attitudes toward all the types of personal values represented in our questionnaire—e.g., social restraint and self-control; adventure and initiation of change; withdrawal and self-sufficiency; receptivity and altruism; sensual enjoyment and life of pleasure.

(c) Table 30. Numbers of Items Contributing to the Dimensions of Factor IV

Dimensions:	<u>Sections of the Assessment Battery</u>															
	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		F.G.		Val.	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	—	3	—	2	—	4	—	—	—	1	—	2	—	2	—	—
B	—	8	—	2	—	—	—	—	—	1	—	2	—	4	—	—
C	—	—	1	—	—	—	—	—	5	—	—	1	—	—	—	2 2
D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	—

The teacher's apparent rejection of use by others of authoritative power, of routine work, and/or informal status (popularity) does not necessarily mean he would not use these devices himself. In fact, however, as we have seen, he does tend to place himself in the role of adviser rather than work superintendent, and he does tend to set up activities and projects in which he is at least as much a consultant as

a director. The lack of a clearly formulated set of personal values adds to the impression of a person who derives stimulation and direction from other people—e.g., a counselor who concerns himself primarily with the

problems of his clients.

The students, on the other hand, are significantly low on this factor. They are unrebelling, will accept routine work, and are perfectly happy with demands imposed by authorities. One suspects that there may be a tussle between teacher and class over the problem of his right to "structure" activities for the class—with the teacher being somewhat reluctant to do so.

Further Initially-Significant Characteristics of Teacher #14

Factor II makes an interesting distinction between impersonal work demands and personal work demands. The teacher is low on this factor and his experimental class is indifferent to it in the sense that they do not differ from the control class in this respect.

(a) General Characterization

This factor is composed of generally negative attitudes toward work and its interpersonal involvements. Rejection of discipline and any form of external control is so marked that it appears to be counter-dependency. Conflict between the desire for autonomy and the appeal of dependency is resolved by an extreme reaction against any type of authoritarianism. Freedom is expressed to the point of license and seems rather to be impulsive self-gratification. Students high in this factor would tend to be overtly rebellious and critical toward authority and personal or social constraints of any kind.

(b) Component Themes

Dimension A rejects work and study activities, whether originating from the teacher, the group, or the nature of the task itself. The

It is a bit difficult to read this factor because the teacher rejects it, and one has to read the opposite of the text. Dimensions C and D are clear: the rejection of impulsive hostility and self-centeredness; coupled with acceptance of warm, supportive relations to others. And dimension A, in its reinforcement of work, is consistent with other information. But the last part of dimension A and most of dimension B are, at first sight, incompatible with the rebelliousness of Factor IV. The difference appears to be in impersonality: a demand imposed by virtue of authority or power is rebelled against. On the other hand, one wishes to trust the persons in authority positions, not as demanders, but as protectors—as persons willing to relieve one of the discomfort of self-assessment. In short, it is acceptable to submit to a person in authority but not to impersonal, authoritatively given demands. Here we seem to see the "counselor" image being projected loud and clear.

Non-Significant Initial Factors

Factor V is not significant for the teacher or the experimental class. It does, however, exist in the combined population of control and experimental classes. Although it does not distinguish between the two classes, it does represent a set of attitudes (etc.) that exists, and with whose variability the teacher must contend.

(a) General Characterization

This factor is composed principally of variables that present a picture of a personal quest for autonomy. There is a high valuing of an active, productive life of pleasure and adventure coupled with an aversion toward restricted freedom imposed through the discipline and

control of others. It is as if the desire for personal freedom and independence had resulted in an overreaction against external authority. Work is not perceived as worthwhile or meaningful in itself. It is acceptable when incorporated in interaction with others, but when pursued alone it becomes threatening.

(b) Component Themes

Dimension A gives high positive valuation to an active way of life which permits personal freedom and opportunity of experiencing life to the fullest.

Dimension B reveals a preference for active participation in both work and social interpersonal interaction. Working as a member of a large group is rated positively, and both listening and telling types of behavior are acceptable. The emphasis here is not so much on work as it is on group membership.

Dimension C shows a tendency to resist teacher authority and to be uncomfortable when called upon to work under the direction of the teacher. There is a suggestion of counter-dependency in this expressed attitude toward teachers.

Dimension D reveals a low work orientation, particularly when the work requires planning and academic discipline.

Dimension E points to an element of self-conscious independence with behavior aimed at avoiding dependency on others but without any apparent ability to function adequately when alone.

Dimension F points to a preference for participation in work interaction; (4) security and risk taking are viewed positively, and both discipline and freedom are desired.

(c) Component Themes

Dimension A reveals a tendency to reject work that demands self-confidence

(c) Table 32. Numbers of Items Contributing to the Dimensions of Factor V

Dimensions:	<u>Sections of the Assessment Battery</u>									
	Cl.Ac.	Ptcp.	T.D.	Who?	Sit.	Ways	R.G.	Val.	Words	
	+	-	+	-	+	-	+	-	+	-
A	—	—	—	—	—	—	1	—	15	1
B	1	—	6	1	—	—	4	—	1	2
C	—	2	—	1	4	—	—	3	—	1
D	—	3	—	—	—	2	—	1	2	—
E	—	—	2	—	1	—	4	—	2	1

The Factor VI, like Factor V, is also not significant for the teacher or for the experimental class. It is an all-girl factor.

(a) General Characteristics

This factor is more ambiguous and inconsistent than the other five factors. Either the relationships between the variables is so negligible that meaningful patterns are no longer present or the relationships are produced by students who have ambivalent attitudes toward the educational milieu. If ambivalency is the case then we have a factor in which: (1) no clear-cut commitment to life goals is present; (2) work is perceived suspiciously and given a higher preference in esteem than it is in practice; (3) high concern for peer relationships in which expressed aggression toward peers is coupled with professed concern for participating in such interaction; (4) security and risk taking are viewed positively, and both discipline and freedom are desired.

(b) Component Themes

Dimension A reveals a tendency to reject work that demands self-confidence

or patience with routines. Work in general is evaluated negatively and perceived as somewhat threatening.

Dimension B reflects ambivalent feelings concerning life goals. The desire for attainment of an easy life of self-gratification conflicts with a need for an active adventuresome life of self-denial. Comfort is perceived positively, as is power.

Dimension C reveals a desire for a structured, well organized classroom in which a small measure of responsibility is delegated to individual students. Under such conditions work participation is facilitated and a minimal work commitment is satisfied.

Dimension D reveals anxiety when in personal contact with a teacher. The indication is that teachers who stand aloof and maintain social distance are preferred.

Dimension E demonstrates a tendency to be aggressive in peer relationships which are, nevertheless, viewed in active, stimulating and desirable terms.

(c) Table 33. Numbers of Items Contributing to the Dimensions of Factor VI

Sections of the Assessment Battery

Dimensions:	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		R.G.		Val.		Words	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	—	—	—	2	—	—	—	—	—	1	—	2	—	—	—	—	—	2
B	—	—	—	—	—	—	—	—	—	—	—	—	1	—	2	—	2	—
C	4	—	—	—	—	—	1	—	—	—	—	—	4	—	—	—	—	—
D	—	—	—	—	2	—	—	—	1	—	4	—	1	—	—	—	—	—
E	—	—	1	—	—	—	—	—	2	2	—	1	2	1	1	—	2	1

The persons high on one factor are not necessarily the same as the persons high on another factor. One may view the class as being composed of different groups of children, each group being "partial to" a different factor. High agreement on a factor means simply that the people who are sensitive to the factor tend to agree in their rejection or acceptance of it. Factors V and VI have both adherents and rejectors, with no clearly established numerical dominance of one over the other.

The Final Communality Between Teacher #14 and His Teachable Class

Factor I' conveys a clear picture of creeping socialization. Both teacher and experimental class are significantly high.

(a) General Characteristics

This factor is characterized by passive acceptance of and conformity to social norms. The normative pattern has been so internalized that rebellious tendencies are apparently non-existent. Persons high on the factor would avoid any expressive-impulsive behavior. They would be industrious but work would be done more out of concern for achieving goals set by others than out of consideration for personal goals.

(b) Component Themes

Dimension A reveals a consistent acceptance of the normative values of living a productive, useful, and cooperative life guided through self-control and social restraints. There is uncritical awareness of the social order. Emphasis is on discipline and structure rather than on permissiveness and freedom.

Dimension B avoids any display of emotionality. The variables have to do with holding oneself in check. Expressions of fight and

flight are avoided. Sensual enjoyment, adventure and risk-taking are strongly rejected. The tendency is to be reflective, not impulsive.

Dimension C represents a particular quality of work orientation. There is a sense of being industrious and productive, and an attitude of acceptance of work. The orientation, however, is to work as labor which one is supposed to do rather than as a stimulating activity to be viewed enthusiastically and engaged in creatively.

Dimension D reflects a tendency to define social values in conventional and stereotypic terms.

(c) Table 34. Numbers of Items Contributing to the Dimensions of Factor 1'

or Factor 1

Sections of the Assessment Battery

Dimensions:	Cl.Ac.	Ptcp.	T.D.	Who?	Sit.	Ways	R.G.	Val.	Words		
	+	-	+	-	+	-	+	-	+	-	
A	1	—	—	—	1	—	—	10	4	3	1
B	—	4	—	—	4	—	—	2	2	2	—
C	1	—	—	—	1	—	1	2	2	1	—
D	—	—	—	—	—	—	—	—	—	2	—

This factor suggests the development of rather traditional group norms. The "good group member" has developed, with muted emotionality, and exposure, lack of confidence in personal power to cope with life, and he has internalized the social controls through which the group maintains itself as a social order. But the reduction of emotion and the emphasis on the social order has now changed the status of work—from an end to be sought through cooperation to a means-vehicle in the service of maintaining the social order.

Factor V' shows what the teacher and experimental class both reject:

(a) General Characteristics

This factor gathers together negative attitudes toward peers, teacher and school work. The tendency is to be uncooperative, complaining and resentful in interpersonal relationship with peers. Teacher authority is resisted, and there is not trust enough to accept help or instruction from the teacher. Stressful situations are responded to with fight or flight rather than with constructive action.

(b) Component Themes

Dimension A reveals difficulty in getting along with peers. One tends to avoid interaction altogether or to react hostilely. Group work is viewed as unprofitable and is participated in reluctantly.

Dimension B expresses negative attitudes toward the teacher. More than rejection of authority and control, there is expressed lack of trust and a tendency to be quite ill at ease with the teacher.

Dimension C shows a tendency to engage in non-work behavior— being easily distracted, evading task responsibility. There is also low self-confidence when confronted with academic demands or with a work situation in which one might be subject to evaluation by one's peers.

Dimension D reveals low ego strength. There is fear of self-exposure, lack of confidence in personal power to cope with life, and anxiety over evaluations made by others.

Dimension E represents withdrawal from difficult and challenging situations. There is rejection of a way of life which involves initiative, risk-taking, and/or reliance on one's personal strength and resources.

(c) Table 35. Numbers of Items Contributing to Factor V'

Dimensions:	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		R.G.		Val.		Words	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	—	—	4	—	—	—	—	—	3	—	2	—	—	—	—	—	7	—
B	—	4	—	1	—	3	—	—	—	—	3	—	2	—	—	—	—	—
C	—	5	—	3	—	—	—	—	1	—	6	—	2	—	—	—	—	—
D	—	1	—	5	—	—	—	—	7	—	3	—	1	2	—	2	—	5
E	—	—	—	—	—	—	—	—	—	—	—	—	2	—	7	—	—	—

Factor V' has much the same flavor as the opposite of Factor I with the exception of the imaginativeness and with the addition of trust in the teacher. It is primarily a negative way of defining a high solidarity group. Factor I' portrays the teacher-sanctioned social controls that developed, whereas Factor V' shows some of the psychological conditions of "climate" that are rejected. Together they show a good deal of "group growth," not all of it necessarily facilitative of educational endeavors.

Further Finally-Significant Characteristics of Teacher #14

Factor IV', on which the teacher is significantly high and the class indifferent, may depict some interesting influences of the group on the teacher.

(a) General Characteristics

This factor portrays conflicts inherent in moving through adolescence and toward adulthood. The focus is on the unwillingness to be dependent on the teacher while not yet being secure in taking action on one's own.

There is a certain amount of hesitation which, though not eliminating action, does hinder one in his quest for independence. Persons high on this factor tend to be more active than passive, but seem unwilling or unable to take initiative or assume personal responsibility. They seek support from and want to be able to fit into their peer group.

(b) Component Themes

Dimension A reflects a preference for harmonious peer relations. There is desire to be considered as part of the peer group. The relationship, however, is more that of getting support from rather than of actively contributing to the group.

Dimension B reveals a tendency to avoid dependence on the teacher. There is rejection of teacher control and of tasks which are imposed or legitimized by authority of the teacher.

Dimension C portrays ambivalence and self-consciousness in one's attempt to become an independent person. The variables reflect both the desire to be an active and responsible individual and feelings of being undertain, uneasy and cautious.

Dimension D reveals an unformulated personal value orientation. Every life style presented in the battery is rejected or viewed neutrally. The most nearly accepted values depict a highly energetic, forceful mastery of nature. This is coupled with rejection of: a comfortable, pleasure-filled life, a conventional-conformistic life, and a receptive-uncomplaining life.

(a) General Characterization

The central theme of this factor is a need for structure so strong

(c) Table 36. Numbers of Items Contributing to Factor IV'

Dimensions:	<u>Sections of the Assessment Battery</u>															
	Cl.Ac.		Ptcp.		T.D.		Who?		Sit.		Ways		R.G.		Val.	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	—	—	2	2	—	—	1	—	2	—	—	—	2	—	1	5
B	—	6	—	1	—	4	—	—	3	—	—	1	—	—	—	2
C	1	3	—	2	—	—	1	—	—	—	1	—	—	—	2	3
D	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	19

Here we seem to find the teacher's ambivalence between teaching and counseling reflected at the more personal level of the group member. In the developed social groups, which both classes had become after eight months, the teacher finds a supportive milieu; and, as often happens under such conditions, senses the possibilities of greater autonomy and strength. On the other hand, if he follows up these possibilities, he may find himself in a dominant and authoritative position, and this he rejects. Hence he appears somewhat trapped. It is quite possible that the problem is augmented by his identification with students who are facing the same problems in their own development.

Further Finally-Significant Characteristics
of the Teachable Class

We shall consider together Factors II' and III'. On both of these the experimental class is high, whereas the teacher is indifferent.

Factor II'

(a) General Characterization

The central theme of this factor is a need for structure so strong

that it permeates virtually all work and interpersonal situations. Both teacher and school tasks are viewed in positive terms. There is desire for self-sufficiency and for accomplishment. Persons high on the factor would tend to be serious in their work efforts. They would tend to be active, dominant and task-centered when working with classmates. Interaction with peers would be chiefly along lines of work and not through socialization.

(b) Component Themes

Dimension A shows preference for work and study activities which contain a good deal of structure and detail. Students high on this factor, while preferring academic work, would still have positive and accepting attitudes toward routine school tasks. They would be self-assured when engaged in ideational tasks; working alone would not be threatening.

Dimension B reveals a highly conscientious attitude toward work. Personal responsibility is taken seriously. One would become involved in tasks done with others and would be an active task-oriented group member dedicated to promoting the work-purposes of the group.

Dimension C shows acceptance of structures defined and set by the teacher, of the teacher's authoritative position, and of his function as a disciplinarian. There is preference for a smooth-running class in which achievement is expedited.

Dimension D shows a desire for being active and self assertive in challenging or adventurous situations.

Dimension E reveals a tendency not to get too close and intimate in personal-social relationships, although there is interest and willingness to help others in their work.

Dimension F shows desire to command oneself and one's environment.

Self-sufficiency and autonomy are valued. Work commitment is mingled with aspiration to attain personal strength and to cope with life's exigencies.

(c) Table 37. Numbers of Items Contributing to Factor II'

One tends to have a favorable image.

Sections of the Assessment Battery

Dimensions:	Cl.Ac.	Ptcp.	T.D.	Who?	Sit.	Ways	R.G.	Val.	Words	
	+	-	+	-	+	-	+	-	+	-
A	10	4						1		
B		2			2	1	2	1	2	
C	6		2						1	
D	1	2						2	1	2
E		2			2		6	1	1	1
F			2					10		

Factor III'

(a) General Characteristics

This factor is composed largely of loadings which reflect strong characteristics of avoidance and self protection. Individuals high on the factor tend to be non-interactive and socially distant. They tend to avoid interpersonal involvements and give the impression of wanting more and more to have less and less to do with others. There is reluctance to engage in active participation in work situations as well as in social situations.

(b) Component Themes

Dimension A reveals a tendency to be socially distant and aloof in personal relationships. Social interaction is avoided. The attitude expressed toward others is one of avoidance of intimacy and self-exposure

combined with an unwillingness to make personal sacrifices for the benefit of others. There is also a tendency to be critical of social "small talk," indicating some degree of impatience with social amenities.

Dimension B reveals a movement toward self-containment and withdrawal from others, as if one needed to build a wall around oneself. One tends to have a favorable though possibly unrealistic self image, protected by avoidance of self-criticism. Dissociation from others seems to be based on distrust and lack of self-confidence. There is unwillingness to reveal or share feelings with others, and general inability to relax and have fun.

Dimension C reveals the tendency to avoid taking initiative and/or assuming responsibility.

Dimension D reveals a tendency to devalue and be threatened by work especially when it is done under the authority and supervision of the teacher. A desire to avoid personal contacts with the teacher is also present.

(c) Table 38. Numbers of Items Contributing to Factor III'

Dimensions:	<u>Sections of the Assessment Battery</u>															
	Cl.	Ac.	Ptsp.	T.D.	Who?	Sit.	Ways	R.G.	Val.	Words						
	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
A	—	—	—	12	—	1	—	—	2	2	1	—	—	—	2	2
B	—	—	—	14	—	—	—	2	—	2	—	—	—	2	4	2
C	—	—	—	1	—	1	—	1	—	1	1	—	1	—	—	—
D	—	1	—	2	—	1	—	1	—	1	—	2	—	—	—	2

These two factors carry on with the themes which represent final and general of the teacher. Further study are undertaken in a special session communalities between teacher and class (Factors I' and V'). We now see teacher, primarily to please or placate the teacher. One tends to be distant

that at least part of the experimental class went somewhat further than the rest of the class and the teacher. In Factor I' we considered the possibility that work had shifted from an end in its own right to a means by which the new group solidarity and standards could be maintained. Now we see another purpose of work—for another part of the class—as defense against emotional interaction. It is as if these students were "fleeing" from the interactive warmth and emotional freedom of the cohesive group into impersonal, "safe," structured activities which would make no demand for involvement nor for revelation of self.

It is entirely possible that the teacher himself unwittingly brought this change about. For in his role of "counselor," driven by his own need to resolve his own deeper ambivalences, the teacher tended to do a good deal of probing of the feelings and emotions of his students. Both in the context of clarifying their uncertainties about how to carry out his projects and in the elicitation of personal reactions to characters and situations portrayed in novels, the teacher continually invited highly personal reactions and revelations from his students. There is, we think, good reason to suppose that this behavior of the teacher, interacting with some of the less self-assured students, may have created Factor III'.

Non-Significant Final Factor

Factor VI is not significant either for the teacher or the experimental class:

(a) General Characteristics

This factor depicts submissiveness and conformity to the authority and control of the teacher. Routine tasks are undertaken in a conscientious manner, primarily to please or placate the teacher. One tends to be distant

in interpersonal relationships with peers and to be a passive follower in the peer group. Situations that call for assumption of responsibility are avoided. One tends to be inhibited and frightened by the consequences of spontaneous behavior.

(b) Component Themes

Dimension A reveals conformity and respect for the authority and control of the teacher. There is willingness to adhere to the rules and requirements as set down by the teacher.

Dimension B shows an absence of friendly interpersonal relationships with peers. Close personal relationships are rejected. There is a tendency to be somewhat inhibited and distant rather than outgoing and intimate, and there is a negative attitude toward popularity.

Dimension C shows a lack of commitment to work when functioning as a member of a work group. The tendency is to follow rather than to take initiative or to assume leadership.

Dimension D rejects an active interdependent life. There is avoidance of risks, change, competition, and striving. Thus there is some indication of low ego strength and personal doubt about one's capacity to cope with work and social situations.

Dimension E reveals dependency and inhibition. There is constraint against indulgence in physical, sensual pleasure. There may also be feelings of personal weakness and dissatisfaction.

Dimension F shows a "low-level" orientation to work. There is conscientiousness in doing tasks, but attention is centered on the routine or required aspects, not on aspects which call for independent judgment and action.

(c) Table 12. Numbers of Items Contributing to Factor VI'

Dimensions:	<u>Sections of the Assessment Battery</u>											
	Cl.	Ac.	Prop.	T.D.	Who?	Sit.	Ways	R.C.	Val.	Words		
	+	-	+	-	+	-	+	-	+	-	+	-
A	2	—	—	—	1	2	1	1	—	—	—	1
B	—	—	—	1	2	—	—	—	2	—	—	2
C	—	—	—	—	—	—	—	1	—	1	1	1
D	—	—	—	—	—	—	—	—	—	—	11	2
E	—	1	—	1	—	—	—	1	1	—	10	2
F	2	—	—	—	—	—	2	1	—	—	1	—

Factor VI' goes beyond Factor III' in its portrayal of a weaker ego. There is no overlap between the students who are high on the two factors.

Discussion of the Factor Analysis "Growth" Study

Before attempting to use the information about factors to answer our initial questions, it may be well to review just what it is that the factor analyses are able to reveal. In the first place, the factor analyses present a very incomplete picture, for all six pre- or post-factors together leave a little more than 70 per cent of the variability of the actual test data unaccounted for. What the analyses show is the trends within the data—the items that cluster together or correlate with each other. But they do not show all such clusters because the Univar was shut off after the first six factors had been extracted. It is generally assumed that the factors emerge in the order of their importance, and this was the case in our study. Thus the amount of variance accounted for by each successive factor diminishes. The sequence of pre-factor

variances is: 6.5, 4.8, 5.0, 5.1, 3.7, 3.8 percents; and of post-factor variances, 7.2, 6.6, 4.3, 3.8, 3.6, 3.6 percents. Presumably, then, further factors or tendencies would be rather minute.

In the second place, there are relatively few students who are significantly high on any one factor, although most of the students are high or low on at least one of the factors. On the pre-factors, four students in the control class and three in the experimental fail to have significant scores on any factor. On the final factors, three of the control and eight of the experimental students do not have any significant scores. The number of students having significant scores on two or more factors is initially 12 in both classes; at the end, there are 12 in the control group and 6 in the experimental. It seems reasonable to conclude that the pre-factors describe both groups equally well, but that the post-factors describe the control group more fully than the experimental.

Relative to the control group, then, it appears that the experimental class has become somewhat less variable with respect to these factors—an interpretation supporting the independent observations of higher solidarity.

As for the direction of change, the factor analyses reveal both typical and atypical developments as compared to other, non-factorial studies of group "growth." The development of greater solidarity and the increasing routineness of work are both part of a generally accepted picture of institutionalization of social controls, shared expectations, and habits within the group. The fact that this happened more completely in the experimental group merely shows that the combination of personalities was more compatible or "ready" for interaction.

What happens to personal emotion, however, is very much a matter of leadership, and of the "climate" primarily established through the influence of the leader. The factors and observations suggest that teacher #14, with his ambivalences toward independence and authority and his lack of clearly established goal commitments, had arrived at a "counseling" relationship as the one most congenial to his needs. On the whole, this relationship seems reasonably well integrated with his pupil-centered but professional style of teaching. Given the more teachable students, this "counseling" approach very likely facilitated the development of the group's solidarity. We have suggested, however, that this development may have "trapped" the teacher between his group-supported impulses to freedom and independence on the one hand, and his fear that to act on such impulses would alienate him (as teacher) from the group. Under such conditions, his leadership would be from "behind;" that is, he would seek cues from the students (rather than from the requirements of the "subject") to justify or legitimize his ideas of what activities the class should engage in next. The effort to demonstrate these "cues" was what we noticed as "probing" behavior, and the class, which wanted nothing better than to have a strong teacher set up the activities, found that the teacher's originally spontaneous expressions of personal interest were now becoming contaminated with his leadership problems. The students would, we believe, become wary of the probing, and the result would be withdrawal and self-protectiveness.

At the same time, the quality and feel of work would change. Three things would occur. First, the group would develop work norms which would integrate work activities within the maintaining activities of the group—the normal process of institutionalization. Second, since work demands

could come only from the students, work would become subordinated to maintenance of the group—which is not at all a necessary consequence of institutionalization as teacher #13 showed. Finally, the students' pressure on the teacher to structure activities would be yielded to with respect to those activities whose need was so self-evident that they would not arouse his anxieties about imposing. And these activities would be the routine technical ones. But these are the ones least congenial to the teacher, and it seems fair to reason that in an effort to escape them he would redouble his probing—thus setting the vicious circle in motion again.

These interpretations are, of course, going a little deeper than would ordinarily be required or justified except for the study of the dynamics of the teaching-learning process. The chief point of them, other than to check out the interpretations about the same teacher at the end of the last chapter is to discover what sort of results we may get from this sort of factor-analytic study. It is our opinion that this exercise demonstrates quite well that the factor-analytic approach to group growth—especially when backed up by observational data—does indeed have fascinating possibilities.

We wonder what would be revealed from the other 12 teachers.

Chapter 8

Summary, Discussion, and Suggestions

In this chapter we shall attempt to review the most significant findings, discuss the rationale and method of grouping that these findings support, and make a few practical suggestions about how grouping may be done in schools.

Summary of Findings

Our thirteen teachers tend, on the average, to make use of preparatory presentations, assignments, and class recitations, followed by preparation by the teacher for the next assignment. The students they selected as "getting most out of class" tended, on the average to be more psychologically mature than the students they selected as "getting least out of class." By psychologically mature, we mean more work-oriented, more free in the expression of emotion, more secure in the face of expressed emotion, more interactively interdependent, more autonomous, and more able to cooperate with the teacher.

Given classes composed of more "teachable" students, the teachers on the average had more orderly and manageable classes; they tended to like the students better; and they gave them better grades. The "teachable" students tended to like the teacher only slightly more than did the control students, they gained no more on achievement tests, and they tended to express a higher level of satisfaction with the activities and with the course as a whole. They also tended to like each other better, and by and large the teachable classes had greater solidarity than did the control classes.

This general picture, however, covers up a fascinating variety of actual classes and teachers. The general characteristics of teachability teased out of the 13 comparisons actually represent only about 40 per cent (on the average) of the pattern of differences between high and low teachables selected by each teacher. The other sixty percent of the differences modify the picture very markedly—so markedly in fact that the low teachables of teacher #8 bear a decided resemblance to the teachables of teacher #7. Further, the "routine-technical" aspects of style, most common to all the teachers, are embedded in a total method which varies all the way from predominantly bull session, through highly directive non-interactive, to inquiry-oriented cooperative teaching. Finally, the results of all the teaching agree almost completely on the higher grades given to the teachable classes, but every other result has prominent exceptions in at least a few of the cases.

To demonstrate better "what really happened," we offered case studies of the five most different teaching styles. From these studies we concluded that the teachers interpreted the selection criterion in quite different ways, that the teachable students for one teacher may be quite different than for another, that the fit between teacher and teachable students primarily results in better meeting of the teacher's most dominant needs (possibly at the expense of more superficial professional needs), that what happens in class is entirely consistent with our knowledge of the students and of the teacher. Generally speaking, unless the teacher is driven by compelling personal needs, he is able with the teachable class to do more fully what he tries to do with his other classes.

The hunch we started with seems to us to have been found correct:

under certain conditions, he excluded.

that successful grouping must take the teacher himself into account. We remain convinced that any grouping which does not in some way attempt to "fit" students and teachers together can have only accidental success.

Nevertheless, the experiment raises a good many issues in our minds, and as we have discussed it with the experimental teachers, workshops, and administrators, we have become aware of a great many implications going way beyond the problem of grouping. We would like to present these further considerations now, and we will organize the discussion around a variety of topics.

Discussion of the Rationale and Method of Grouping

1. The Problem of Grouping

We believe that some percentage of the students in all schools—regardless of how carefully they may have been screened on entry to the school—will require special personnel arrangements. Public school teachers and guidance workers we have talked with place the figure variously between ten and twenty-five per cent. These are students for whom the institutional arrangements, traditions, and expectations simply do not fit at all well. They include both strong "natural" leaders and "problem" children. For them, four possibilities exist: (a) by combing the faculty and program carefully, one can certainly find some particular teachers and courses that will minimize the maladaptation, and one can try to get the students into these situations; (b) by studying the students carefully—both in and out of school—hunches may be arrived at and special arrangements made within the existing school structure; (c) they can be referred to someone else to worry about; (d) they can, under certain conditions, be excluded.

In most cases, especially involving "remedial," passive, and unmotivated students, the most important element in rehabilitation is the interpersonal relations between the students and some staff member, whether he be a teacher, counselor, or coach. For the problem is to "get to" these students, and it has to be done on their own terms. Remarkable results have been reported when the student is finally able to enter into a healthy relationship: gains of two to four years in reading, for example, may occur within a single school year. Yet the "deviate" often is merely the dramatic instance that calls attention to universals. There is every reason to believe and none to doubt that all students would be better off if, at least during some part of the school day, they do have warm and esteem-building personal relationships with some adult. To this extent, "fitting" the teacher to the child should not be confined only to "special cases."

In addition to these "special cases," there is probably another group—maybe 25 to 40 per cent of the student body—who can exist tolerably well within the existing school patterns and procedures, but who could be very greatly assisted (educationally, personally) by small modifications that could be made informally within classes or school activities. For the most part, the most sensible suggestion stimulated by these kids is to attempt to make teaching methods more responsive and adaptable to groups of children in the classrooms. Such teaching would (a) involve student participation under such conditions that the teacher could get enough "feedback" that he could assess much better the effectiveness of his activities; (b) use a great enough variety of activities that it would be possible for a wide gamut of strengths and capabilities to be demonstrated by the student—thus giving the teacher more avenues for

"reaching" the student through capitalizing on his strengths; (c) utilize teacher-pupil planning and evaluation of class and individual progress as a means to develop commitment to long- and short-range goals for the class and for individuals during the course; (d) be reinforced by professional discussion among the faculty for the purpose of aiding each other to implement conditions a, b, and c.

Finally, the remaining 35 to 65 per cent of the students probably find school experiences sufficiently worthwhile and rewarding that the "average" teaching in the school is satisfactory in the sense that there are no strong cues from the students themselves to stimulate the average teacher to try to change himself or his methods of teaching. If all the students were of this sort, then changes in methods and courses would be entirely stimulated by pressures from outside the school: parents, national planners, subject experts, technologists, etc.

If one assumes that these statements are substantially true, then there are two courses of action open with respect to grouping. The first course of action is the one most often taken at present: divide the students into categories, separate them in the various subject-fields of study, and try to deal with each group in some way appropriate to its nature. Thus we have the "ability" tracks in schools as recommended, for example, in the Conant report on high schools. There are special groupings of "unteachables" in "opportunity" classes, and of the "gifted" in "research" courses; recently the newspapers even carried a story about the development of special courses for the "average" student. We shall refer to this as grouping on the basis of (alleged) characteristics of students.

The chief finding from studies of such groupings is that sometimes they work and sometimes they do not work. Thus, for example, Ruth Ekstrom concludes that high ability students, as dealt with over the last 30 years, are just as likely to be as well off in regular heterogeneous groups as in special homogeneous groups. There is, she suggests, a reason for this: in the classes where homogeneous grouping seems to be advantageous, the teacher is modifying his teaching to "fit" the group. In other words, special grouping makes sense only when the teacher has a clear and accurate idea of what to do with the special group. From this standpoint, the chief difficulty with homogeneous ability grouping is that the guesses about how to deal with the group are often wrong. Thus we find teachers who think "bright" children "ought" to be more self-directing, more interested in the subject, more creative, or more eager to have work piled onto them. By and large, however accurate these guesses may be with regard to impressions of bright adults who are successful in the adult world, the guesses are mostly not true—and certainly not necessarily true—as applied to most bright children under usual school conditions.

What this experience tells us is that we need facts instead of guesses. What relevant aspects of classroom operations correlate with "ability"—or whatever other selection criterion is used? In view of the way the teacher teaches, what evidence is there that a high IQ would be required for success in the class? Until we know more about these matters, every grouping experiment should be viewed primarily as a "field" experiment designed at least partly to obtain this sort of information.

Grouping students on the basis of characteristics of the students themselves assumes that different "types" of students exist and can be

described. To work practically, it must further be assumed that the number of types is relatively small, and that all students can be pigeonholed as one type or another. We have recounted our efforts to find such "types;" they have failed. While we think our techniques could be improved considerably, we doubt that better techniques would lead to much different results. The state of affairs seems to us to be as follows: (1) Conceptually, in terms of broad philosophic, cultural, or psychiatric orientations, a limited number of types can be posited. But very few people are the least bit "pure" with respect to these types; nearly everyone is a blend, and the particular way the blend is organized within the person may be at least as important as the quantity of the ingredients relative to each other. (2) Practically, given a specific situation, there are a limited number of ways to react to it: one can fight, withdraw, become dependent, seek intimacy, analyze, etc. If most or all of the "situations" in the classroom were identical, then students could be "typed" by their most usual mode of reaction. But even the most routine teaching offers much greater variability than this, and most students react differently to different situations. (3) If only one measuring stick, such as IQ, dominance, weight, or strength of grip is used, then all students can be distributed along a scale from highest to lowest scores, and different ranges of scores, obviously more homogeneous than the total range, could be labelled "types." But if two, three or 172 scales are used, the types would have to be defined by patterns of responses. And what we found is that the number of patterns is practically infinite. Moreover, such patterns, obtained from all sorts of test situations that are quite unlike classroom situations, offer very involved problems of interpretation; to decide what practical implications any such pattern

has for the conduct of the class requires a high degree of clinical sophistication. (4) Finally, we found that teachers recognize four kinds of students: the good, the bad, the indifferent, and the sick. But the problem is that each teacher places different students in these categories, so that whatever is being judged is certainly not primarily some characteristic of the student.

Thus we conclude that in the present state of the art the concept of dividing students into objectively-definable types presents formidable difficulties. And that even if it could be done, the problem of deducing from existing curriculum theory what ought to be done with each type is also a formidable one.

There are, of course, other, non-educational reasons for grouping by characteristics of students. These reasons have to do with the class structure of society. The "top" group, however defined in a particular community, is the elite; the bottom group, the "followers." The purpose of "education" is to teach students their "place," and to prepare them to occupy this place with as good grace as possible. Whether this is called a "recognition of societal facts" or simply the need to have someone to scapegoat and discriminate against, it is at least a widely found element in practically all school programs. This is clearly seen in the fact that achievement in a course is measured by "what the student knows" at the end of the course rather than by "what he has learned" or "gained" during the course. Until tests and other measures are administered both at the beginning and end of the course so that we know what children learned during the course, the school will be open to the charge that it is more interested in selecting and creating social structure than in educating children. The problem is especially complicated by the fact

that as yet most of the "educational product" cannot be defined conceptually, let alone be measured with much confidence. Certainly it is not measured with much accuracy by teacher-constructed or selected "achievement" tests of the sort most commonly used in school today.

The second course of action is not in theory, at least, antithetical to the first, even though it appears quite different in terms of present practice. This course of action attempts grouping, not on the basis of objectively-defined types of students, but on the basis of conditions required for more effective teaching and/or learning. In other words, it starts with the proposition that the particular "personalities" in the group are, in fact, important given conditions which have a great deal of influence over the nature and productivity of classroom experience. It is this method of grouping that we have tested in our experiment. We have called it "teachability" or "facilitative" grouping.

Teachability grouping can be approached from two different directions. One can ask, as we did, "what sort of student can a given teacher teach most effectively"—and then the teacher can be given a classroom full of such students. The second approach would be to ask "what sort of teacher will bring about most learning by a particular student"—and then the class group for that teacher would be composed of students for whom this was judged to be the best teacher. A third approach would be to combine the first two; to try to answer both questions and then attempt to get groupings such that both criteria were satisfied as well as possible. Our findings suggest that the groupings obtained from the first two approaches are not constituting a tight pattern (or "type" as considered above) and would not necessarily be the same. In some cases, such as that of teacher #13, central education-relevant needs of both teacher and students were very well met; that the teachable students for teacher A do, in fact, met. In the case of teacher #5, some needs, much less centrally relevant and to be "bright." If it also turns out (as seems unlikely) that "brightness"

to most definitions of education, were met by both teacher and students. In the case of teacher #7, education-relevant needs of the teacher were met, but at the cost of not meeting some strong needs of the students; and the consequences are of doubtful educational value (as judged by us, not the teacher). In the case of teacher #8, the needs of teacher and pupils were met for a short while, and then the situation deteriorated because the role of leader was missing. In this case, however, the teacher apparently did not use the selection criterion we asked him to use.

On the other hand, as a practical matter, it can be argued that if each teacher is teaching more effectively, the school is a better school, and if the condition required for teaching more effectively is that the teacher can meet his needs better, then we are still better off—even if in some or a few classes the students are no better off than they would be if grouping were not attempted.

2. The Educational Strategy of Teachability Grouping

The central proposition is that a teacher does a better job with some pupils than with others, and that therefore it makes sense to give him a class composed of the sort of students with whom he has been found to do a better job. An obvious corollary is that the students to give to each teacher must be determined in some way that takes each teacher into account. Let us consider some implications of this proposition.

One implication is that certain student characteristics, probably not constituting a tight pattern (or "type" as considered above) will be found to be positive indicators for particular teachers. Thus it could very well turn out that the teachable students for teacher A do, in fact, tend to be "bright." If it also turns out (as seems unlikely) that "brightness"

is the only important characteristic of teacher A's teachable students, then clearly teacher A should be given a homogeneous "bright" group. In other words, it seems to us that grouping can be done at least partly on the basis of objectively-defined student characteristics once these characteristics have been demonstrated to be important for a certain teacher. Preliminary experiences with "teachability" grouping may lead in some cases into more objective grouping on the basis of student characteristics. But we insist that the prescription should be written to fit the teacher rather than giving all teachers the same prescription and then studying the mortality rate.

A second implication is that it is time to face up to the fact that most teachers do a better job with some students than with others; and there are some students, different from teacher to teacher, that the teacher simply does not reach at all. Facing up to this fact would immediately (according to the school psychologists we have interviewed) reduce a great deal of anxiety among teachers, and would put them on a more realistic footing vis-a-vis their administrators.

A third implication is that there is no one "right" way to teach, at least not if teaching is defined as a set of specific procedures. Certainly all teaching should be facilitative of inquiry by students, but the practical meaning of this requirement may be very different from one kind of student to the next, and also from one teacher to the next. There are two important consequences that follow: first, within a broad orientation to inquiry, the faculty should be heterogeneous, and each teacher should be encouraged to develop to the hilt his own style of teaching. Only thus can grouping meet a wide range of student

the teacher should feel more adequate to teach; relieved of some of his

characteristics. Second: in-service training and professional discussion within the school should be based first on agreement on the conception of education as inquiry and second on agreement that there is no one set of procedures, kind of materials, particular range of activities, or personality of teacher that is "right." The question should not be, either directly or by implication, "what is the right way to teach." The question should be first, "how do I teach," and second, "for whom and under what conditions is this way of teaching most appropriate." Asking the question this way would open the door for examination by each teacher, with the cooperation of other teachers, of his own teaching—a very rare thing indeed in the schools of today.

A fourth implication is that grouping belongs among the professional responsibilities of the teacher rather than the administrator. Every teacher should be professionally concerned with the problem of defining what sort of student he can best teach, just as a doctor or psychiatrist has the responsibility of deciding what patients he can help. The continual examination of this question could be both a stimulus to "growth" on the part of the teacher and a way to get the really important information required for grouping that will best use the resources of the faculty.

A fifth implication is that teachability grouping may lead to some striking improvement of teaching. We have shown that there are fewer "management" difficulties in the teachable groups. Less of the teacher's efforts are required to "manage" the group, that is, to secure conditions such that he can "teach" the group. (We deplore the distinction between "management" and teaching, but there it is.) The implication is that the teacher should feel more adequate to teach; relieved of some of his

anxieties about controlling the group, he should be freer to create and experiment with new procedures and methods. Certainly to the extent that the teacher feels that he "must" teach in a dull, non-interactive, and routine way in order to keep the class under control, teachability grouping should result in a considerable improvement of teaching. The general proposition is a commonly understood therapeutic one: when people feel more adequate and less anxious they then are "freer" to use their intelligence to guide their behavior.

A sixth implication is that, although teachability grouping may support heterogeneity of teaching procedures, it nevertheless may tend to bias all teaching in certain ways. We consider these ways to be good, and to be deducible from sound educational theory. We will organize the discussion of this point around the question: for whom does "teachability" grouping work best.

3. For Whom Does Teachability Grouping Work Best?

To be able to help himself by telling us what sort of students he can best teach, the teacher must be able to recognize these students with some accuracy. A good many hypotheses stem from this proposition, and we formulated them at the end of the period of observation of the classes.

1. The teacher must realistically select kids who "got a lot out of class."
2. To have enough evidence to do that, the teacher must teach interactively, and actively, getting plenty of feedback from the kids.
3. To be able to judge this evidence accurately, the teacher must be oriented to the "whole child" and be acceptant of a wide range of needs (i.e., the teacher is unanxious).
4. A teacher this realistic, responsive, and willing to provide all interactive opportunities would also modify his teaching to fit his class. He should, therefore, show differences between his behavior in the teachable and control groups.

5. The method of teaching which allows for greatest adaptation or flexibility of means employed by the teacher (range of behavior and learning activities) is one whose ends are defined but whose means are left somewhat "open" to be worked out (or emergent) in class. Thus there would be a number of alternative procedures any of which could be used to move the class toward the same desired goal.

6. Given the need to choose among alternative ways of proceeding toward a desired end, the teacher needs criteria to guide this choice. His criteria reflect some combination of the two logical possible policies: "the end justifies the means," which is the justification for "efficiency;" and "the means determine the end," which leads to use of values of process. Clearly the condition under which the two criteria become identical in practice is when the end of the teaching is the development of inquiry. . . ."

We believe our case studies, in chapters 5 and 6, throw a good deal of light on the validity and applicability of these hypotheses. Let us review certain features of the case studies with these hypotheses in mind.

Teacher #5 appears to have selected students who could co-participate with him in vigorous give-and-take interaction. He was very responsive to them, and felt he accomplished his educational purposes with them. His educational purpose was to teach them how to behave in certain sorts of social situations. His criterion of selection appeared to fit very well his method of teaching and his goals. Hypotheses 1, 2, 3, and 4 appear to fit the case. Hypotheses 5 and 6 are less clear. The teacher's limited goal, involving very little intellectualization and inquiry, rather limited his range of procedures to way of responding during discussion, and in this he was quite flexible, thus substantiating hypothesis 5 as applied to a predominantly non-inquiry situation. Hypothesis 6 says that when the teacher is concerned both with efficiency and process, the result will tend toward inquiry. Teacher #5 was concerned hardly at all with "efficiency" in the sense of utilization of student capacity; he was

largely concerned with the interaction process itself, and he achieved the values he sought. But this teacher will not move toward inquiry unless and until he is willing to concede a larger measure of intellectual capability and responsibility to the students. There is reason to suppose that this change may be more likely to occur if he has teachable groups—whose need he so far does not appear to recognize—but whether it will occur depends on the teacher achieving some new insights.

Teacher #13 is one for whom all the hypotheses fit very well. He selected students who in fact did get "a lot out of class." He does have and respond to interaction with them, and he clearly did "go deeper" in the sense of inquiry in his teachable class.

Teacher #7 apparently equated the criterion of "getting a lot out of class" with "docile in carrying out my procedures." She got what she wanted. The only significant change in her teaching was a markedly stepped-up pace, to which the students responded satisfactorily in class but with some hidden resentment. She clearly did not select students "who got a lot out of class" and there is little reason to suppose she would be able to select them. There is nothing in this picture to suggest that the teacher will move toward more inquiry in her method of teaching. She should, however, continue to bring her students up to the level of test-achievement she has set for them.

Teacher #8 also did not use the criterion of "getting a lot out of class." He apparently selected personalities he could identify with. The amount of interaction (as psychological give-and-take) was reduced because there was no leadership capable of structuring activities and the teacher responded to the resulting chaos by withdrawing from contact

with the class.

Teacher #14 did appear to select students who "got a lot out of class." Hypotheses 1 through 5 are clearly supported by the evidence, and the results are all the more striking because the teacher was "against" the experiment from the start. On the other hand, hypothesis 6 was not borne out because the teacher was unable to integrate his "educational" goals with his "counseling" goals. His bases for decisions in the classroom remained somewhat incompatible. Presumably, this teacher may bring these two goals together as he rationalizes the relationships between individual "psychological health" and engagement in classroom activities. The theory that would result would be oriented to inquiry.

On the whole, then, we are inclined to think our hypotheses are too rigidly cast, although it seems to be true that the more nearly the teacher selected students who "got a lot out of class" the greater the number of hypotheses that seem to be supported.

The most reasonable statement is that in all cases what later happened in the classes is compatible with the way the teacher selected his students, and both appear to be compatible with the teacher's "actual" purposes. But "actual" purposes are not necessarily conscious purposes, and they are not necessarily educational purposes. And to the extent that there is conflict among "actual" purposes, as in the case of teacher #8 and, to a lesser extent, in the case of teacher #14, the teacher may get the group he wants, proceed more effectively than usual to satisfy certain purposes, and then discover that it is at the cost of other purposes whose desirability becomes clear only at the point of denial. Thus if the teacher's deep purposes are primarily self-serving, then the teachable group tends to seduce him into even greater exploitation

of students and at some point the students, especially if his need is for vigorous and active students, may rebel. Having this sort of experience could, of course, be the start of some excellent soul-searching,

4. What Can Reasonably be Expected of Grouping?

Apart from the variety of good things that might be occasioned by the effort to group students (see section 2), we conclude the following:

Teachability Grouping facilitates the accomplishment of some or most of the teacher's purposes, and in most cases, makes him more effective with whatever methods of teaching he has developed. Such facilitation, however, has educative outcomes only to the extent that the teacher's purposes are predominantly educative. In short, grouping can increase the teacher's effectiveness, but no amount of grouping will turn him into an educator, even though it may provide conditions such that he is more likely to grow in that direction.

In our experiment all but teacher #8 got what he wanted, and all but teacher #12—as judged by teacher marks—"educated" the teachable children better. It seems quite clear that, by and large, teachers equate their purposes, whatever they are, to educating students. The teacher may be seeking comfort, self-aggrandizement, more extensive "coverage" of the text, deeper insights from his students, more exciting interaction, etc. He is more likely to get this in his teachable group, and he will give them higher grades if he does. Some of these purposes (given a particular sort of student) may lead to higher achievement gains on tests, but there is no reason to think they all will. Some of these purposes (given a particular sort of student) may lead to greater liking between students and teacher, but, again, there is no reason to expect

that universally. Therefore we view the failures of achievement to be not failures of grouping but rather failures of purpose. And this calls for re-thinking on the part of the teacher.

We believe that the experience by the faculty of finding out these things for themselves would be a first-rate inquiry which would contain all the elements of the most effective possible "in-service" (or, better, "professional") training.

Practical Suggestions for Grouping Students

The method requires: (a) identifying students to serve as models for the students to be selected for each teacher; (b) describing these models well enough that one can recognize other students who are like them; (c) screening the students available for each teacher's classes and selecting those who are most like the models. We will consider these steps separately.

The selection of model "teachable" children has to be made by the teacher for whom the grouping is to be done. Note that he is not asked to describe or characterize these students. He is asked merely to point them out. In our experiment, the teachers, after 7 months of teaching, could for the most part point out such students (and their opposites) with very little thought—possibly, in some cases, too little thought. We suggest that teachers be asked to take a month, along about April, to decide which of their students they really feel are "getting a lot out of class" and which they feel are "getting very little out of class."

The next step is to compare these high and low teachables in order to arrive at prescriptions for the students to give the teacher next fall. In the experiment, we administered a very long test and then arrived at

the prescription by item-counting all the responses and selecting those that were significantly different between the two groups of students. (Incidentally, the particular tests used for this purpose don't matter; all that is required is that the test get at enough different sorts of things that a few are bound to be significant. We do not think this was a very good way to do it; it was all right for research purposes, but it denied the teachers a valuable experience.)

Our suggestion is that the lists of names be given to a group of teachers who have the same children in their classes. This group now becomes a diagnostic conference group, whose purpose is to study the lists and attempt to define recognizable characteristics of the students who should be earmarked for the teacher in question. Note that the prescription or set of earmarks is by no means a clinical diagnosis, and note that it has nothing to do, so far as the conference group is concerned, with knowledge of how the teacher runs his class. This undoubtedly will enter the discussion when the teachers are ready to discuss it, but it doesn't have to.

Can a conference group of teachers furnish these prescriptions? We think so, but until some experiments now under way in three schools in California and Illinois are a little further along, we cannot say for sure. Our hunch is that if the teachers realize how simple the job is, they can do it. Suppose, for example, that we are trying to compose groups for four teachers all of whom will be teaching 11th grade English. The practical decision that has to be made is which students should be given to each of these four teachers. The conference group examines the lists of names given to them by each of the four teachers. The members of the group have these students in their classes, too, and they suggest

hypotheses about how the students differ among the various lists. The end result is four descriptions in the form: "If the student is like this (short description) he goes to Miss A; if like this (another short description) he goes to Mr. B, etc."

The third step is to send these descriptions to the teachers in the grade below who presently have in class the students who will be in next year's classes of Miss A, Mr. B, etc. These teachers each rate all of their present students with respect to how well they fit each prescription. What we expect is that each teacher will be quite certain about how to rate some of the children, will be less sure of some others, and will be unable to rate still others. If this is the case, they should so indicate. The ratings, made separately by each teacher, can now be put together. The best way to do this would be to have the teachers who made the ratings argue out their differences of opinion.

The result of these deliberations would be a list of students who should be given next year to Miss A, Mr. B, etc. The list for each teacher will contain a few names that the teachers "below" are certain about. There will be some further students they feel uncertain about, and there will be some more they cannot decide about at all. What this means is that in making up the class lists, the administration should definitely accept the "certain" recommendations, try reasonably hard to meet the more doubtful recommendations, and use the other students, as convenient, to round out the classes of Miss A, Mr. B, etc.

It is possible that experience will show that fitting the students to teachers may be reduced to the problem of fitting only the "standout" children—possibly a quarter of the students; and the rest may be filled in more or less at random. In other words, certain "strong" students

and certain "weak" students should be very carefully placed; but the others may not matter so much. The defect in this reasoning is that the list of strong and weak students, as judged by the teachers in the grade below, may miss a good many who, it will turn out, should have been considered. Hence we think it wiser to consider all the students, at least for the first few times.

This method, as just described, would be the equivalent, with professional bells, of the research procedure we followed. There is another method which may be even better, although we must confess that the administrators we have discussed it with seem singularly unenthusiastic about it. Here it is:

We assume that the first two weeks of school are part of a shake-down period and might well be sacrificed if the time lost could guarantee better teaching during the rest of the year. On this assumption, our proposal is that the four 11th grade English classes be scheduled at the same period of the day, and that the division of the students among the four teachers be done more or less at random. During the first two weeks, let the four teachers rotate among the classes, and at the end of each class period, let each teacher note on the seating chart the students he thinks he would like to have in class. In addition, let the students fill in a post-meeting reaction sheet (such as the one in the appendix) at the end of each class period. Finally, let each teacher exert himself to put each class through selected representative kinds of activities which the teacher feels are important to him.

At the end of two weeks, the teacher's choices and the students' satisfaction ratings can be pooled and the classes reconstituted in such a way as to satisfy the teachers and students as well as possible.

This plan has the further advantage that since all the 11th grade English classes meet during the same period, students can be shifted from one to the other at any time. The plan has the advantage (or disadvantage) that it eliminates the need for much of the discussion that the first plan requires. It also substitutes first impressions of the teachers who will teach the children for more reasoned judgments of the teachers who really know the children. But there is enough evidence of the accuracy of first impressions in groups that it seems worth chancing. This plan also has the advantage of using information from the students to help compose the groups, and we now believe that this is far more important than it seemed at the start of the experiment.

A variation of this plan would be to have the trial teaching occur during the last two weeks of the school year. In this case, each teacher would be rotated through the classes in the grade below. We do not know whether this is a better plan or not. The teachers would be "taking over" classes that have already been shaken down and been molded by another teacher, and many of the problems that plague "substitute" teaching might exert a baleful influence. And, of course, if the students are coming from lower schools, it would be difficult to arrange. On the whole we like the plan better than this variant.

There is a third plan which we think is best of all, but it would work well only with a mature faculty. This plan has been tried in some elementary schools, and the testimony is encouraging; the plan is also very simple. Here it is:

Let the teachers in the grade below confer with each other and decide to which teacher each child should be sent. Period.

Obviously such a plan would work only if the teachers in the grade

below know a good deal about how each teacher deals with the class; and this is information which is not only hard to come by, it is usually strongly and defensively protected. Thus the plan would require a good deal of trust among the teachers. It would also require that teachers visit each other's classes, and, hopefully, discuss teaching with each other. We would have a good deal of confidence in any faculty that made this plan work!

A couple of final notes may be useful. First, of course, the problem of grouping is now reduced to choosing between teachers for each child. If there is only one teacher teaching the course, then there is no grouping problem because there is no choice. If, at present, one teacher has all five 11th grade English classes and another has all five 12th grade classes, then each could be asked to take half the classes for both grades. This would give each teacher two "preparations" instead of one. In return for this, each teacher may have somewhat better classes, and a greater range of students can be accommodated.

It may be interesting to consider what all this means for team teaching. Assuming that within the method there are some relatively stable discussion groups, then the second plan above could be usefully employed to compose them; and, if some of the judgments are in error, then it would be easy to swap students around among the discussion groups and thus secure the best possible fit.

Appendix A - Assessment Battery

Items Keyed to Categories and Sections

Appendices

The following is a brief description of the 9 instruments composing

the assessment battery. As an aid to anyone who might be interested in

using one or more of these questionnaires we have included where necessary

the original categories employed in the design of the instrument.

Assessment battery item numbers for each category are

also listed.

1. Classroom Activities. On this questionnaire the students were asked

to indicate frequency and workability preferences for described

activities.

2. Participation. This instrument attempts to ascertain relative

for working under five social conditions where, in each instance, five

kinds of interaction are possible and the participant can react either

actively or passively. The five social conditions and the assessment

battery items representing each are:

as member of a committee - items 47, 54, 60, 75, 82, 83, 89, 92, 94, 95

as a class member - items 48, 50, 51, 55, 62, 66, 68, 72, 80, 87

with friends - items 49, 53, 58, 61, 63, 70, 73, 76, 78, 85

with interpersonal emphasis - items 52, 56, 64, 67, 69, 78, 84, 86, 90, 93

by the student alone - items 46, 57, 59, 65, 71, 74, 77, 81, 88, 91

Appendix A - Assessment Battery

Items Keyed to Categories and Sections

The following is a brief description of the 9 instruments composing the assessment battery. As an aid to anyone who might be interested in using one or more of these questionnaires we have included where necessary the original categories employed in the design of the instrument. Assessment battery item numbers for those items composing the category are also listed.

1. Classroom Activities. On this questionnaire the students were asked to indicate frequency and worthwhileness preferences for described activities of four sorts. The activity category and the assessment battery item numbers composing each are:

Class-as-a-Whole activities - items 1, 6, 7, 12, 18, 22, 26, 29, 32, 39

Small Group activities - " 2, 8, 13, 20, 25, 30, 34, 36, 38, 40

Teacher Directed activities - " 4, 5, 9, 11, 16, 19, 23, 28, 31, 35

Alone activities - " 3, 10, 14, 15, 17, 21, 24, 27, 33, 37

2. Participation. This instrument attempts to ascertain relative preferences for working under five social conditions where, in each instance, five kinds of interaction are possible and the participant can react either actively or passively. The five social conditions and the assessment battery items representing each are:

as member of a Committee - items 47, 54, 60, 75, 82, 83, 89, 92, 94, 95

as a Class Member - items 46, 50, 51, 55, 62, 66, 68, 72, 80, 87

with Friends - items 49, 53, 58, 61, 63, 70, 73, 76, 78, 85

with Interpersonal emphasis - items 52, 56, 64, 67, 69, 78, 84, 86, 90, 93

by the student Alone - items 48, 57, 59, 65, 71, 74, 77, 81, 88, 91

The five kinds of interaction and the items representing each:

Mutual (cooperation with common purpose): 46,47,48,49,52, 71,
73,75,80,86

Neutral (emotionally uninvolved): 60,65,67,72,77,78,85,91,93,95

Role (influence by or on others): 58,59,61,66,68,69,82,84,89,92

Threatening (exposure of private feelings): 51,53,54,55,57,62,
64,76,88,90

Evaluative (criticism of self or others): 50,56,63,70,74,79,
81,83,87,94

The active-or passive aspect (usually "listening" or "telling") is self-evident in the item. Each of the 25 combinations of conditions and interactions is represented by one listening and one telling item.

3. Teacher Descriptions. On this instrument the students rated 6 "types" of teachers with respect to: 1) "typicality" (judging the paragraph according to their impression of the typical teacher); 2) "learn most from"-judging the paragraph in accord with their impression of the teacher they would learn most from; 3) "comfortable with"-giving their impression of the teacher type with whom they would be comfortable.
4. Who Should Decide? The test measures the individual student's attitude toward decision making and his relationship to authority. The instrument is self-explanatory consisting of five categories based on the student's opinion about the proper locus of authority in a variety of classroom decisions. The five categories (locus of decision) are: 1) the student alone; 2) the teacher alone; 3) the class-as-a-whole; 4) the student and a few other pupils; 5) the student plus the teacher.
5. Situations. This is a forced choice questionnaire assessing tendencies toward work, fight, flight, pairing and dependency in social stress situations. These categories were derived from the theorizing of

W. R. Bion. A coded copy of the instrument will be gladly forwarded on request.

6. Reactions to Groups. This instrument presents the student with 15 group work and emotionality situations on which he is asked to check behaviors he would or would not do, whether a boy, girl, or either a boy or girl would do it, and whether he would approve or disapprove the other person doing it.

7. Ways of Doing Things. This questionnaire rates the extent to which advantages and disadvantages are perceived in four types of work-social conditions where, in each instance, the characteristic of the activity can focus on one of four basic concerns. The work-social involvements and the assessment battery items representing each are as follows:

Involving Teacher - items 92, 96, 101, 104, 108, 112, 117, 120, 124, 128, 133, 136

Involving Class-as-a-Whole - items 91, 94, 98, 102, 107, 110, 114, 118, 123, 126, 130, 134

Involving a Small Group - items 93, 97, 100, 105, 109, 113, 116, 121, 125, 129, 132, 137

Involving a Student Alone - items 95, 99, 103, 106, 111, 115, 119, 122, 127, 131, 135, 138

The four foci of concern and the assessment battery items representing each are:

Focus on Work - items 93, 95, 98, 101, 109, 111, 114, 117, 125, 127, 130, 133

Focus on Others - items 92, 94, 100, 106, 108, 110, 116, 122, 124, 126, 132, 138

Focus on Self - items 97, 99, 102, 104, 113, 115, 118, 120, 129, 131, 134, 136

Focus on Ideas - items 91, 96, 103, 105, 107, 112, 119, 121, 123, 128, 135, 137

8. Values. This questionnaire requires the subjects to rate 60 items related to personal values. The items are keyed to a category system developed by Charles Morris. The six categories and the assessment battery items assigned to each are:

Category I represents a way of life that emphasises social restraint and self-control see items 16, 24, 26, 42, 44, 47, 2, 8, 13, 22

Category II presents a value-orientation accenting delight in vigorous action and the overcoming of obstacles. see items 30, 31, 41, 45, 46, 48, 3, 6, 12, 18

Category III is concerned with a life of withdrawal and self-sufficiency.

see items 18, 23, 27, 34, 49, 4, 9, 5, 14

Category IV deals with values that emphasize receptivity to life accompanied by sympathetic concern for others.

see items 19, 21, 29, 35, 39, 43, 10, 20, 23, 24

Category V stresses self-indulgence and sensual enjoyment.

see items 20, 25, 28, 33, 40, 1, 7, 9, 17, 21

Category VI is an accumulation of items discarded from the above categories because they were rated with overwhelmingly high positivity by the subjects in our pilot study. They have been included as a category of stereotypic value statements, and are interesting as an indicator of non-conformity to social stereotypes.

see items 17, 22, 32, 36, 37, 50, 5, 14, 16, 25

9. Words! Words! Words! This is a semantic differential test associating 10 word-pair continua to 7 goal and person concepts. The same word-pairs were used to rate each concept. The word-pairs were themselves broken down into five categories supplying qualitative information about the students perception of the concept. The word-pairs and the category to which they are assigned are:

word-pair category

Tight....Loose -Rigidity
Ugly.....Pretty-Evaluative
Safe..Dangerous-Security

Weak.....Strong-Potency
Old.....New-Activity
Thin.....Fat-Activity

Dry.....Wet-Rigidity
Loud.....Soft-Security
Good.....Bad-Evaluative
Little.....Big-Potency

Appendix B: Assessment Battery

Symbols for Each Category

(See Teachability items, tables, Appendix K and L)

Listed below are the codes that identify each item according to its assessment battery section and its particular test category.

CLASSROOM ACTIVITIES

Teacher directed activity.....T
Class-as-a-whole activity.....CL
Small group activity.....G
Activity done alone.....A

PARTICIPATION---Each item has a 3 part coding involving one of:

Five Qualities

Mutual.....MU
Neutral.....NEUT
Evaluative.....EV
Threatening....TH
Role.....ROLE

Five Social Conditions

Alone.....A
Friends.....FR
Interpersonal.....IP
Committee.....CO
Class.....CL

Listening....L
Telling.....T

Thus, an item might be coded in the following way: MU IP T

TEACHER DESCRIPTIONS---Test requires the ranking of 6 paragraph descriptions of teachers with respect to "learn most from", "be most comfortable with", and most "typical" of teachers in general. The central theme of each paragraph is expressed by the terms:

"Subject expert".....Paragraph A
"Planning"....." B
"Rules"....." C
"Independent-Self Starting"....." D
"Buddy"....." E
"Traditional-Professional". " F

The codes for the items are the words TYPICAL, LEARNMOST OR COMFORT.

SITUATIONS TEST---Code abbreviations represent Work-Emotionality categories.

Each item contains a stem and two alternative response choices. Thus, the code will show, for example W P D (Meaning stem is keyed to Work; first alternative is keyed to Fairing; second alternative is keyed to Dependency).

Code Listing (continued)

Work.....W
Fight.....F
Pairing.....P
Flight.....FL
Dependency...D

WAYS OF DOING THINGS---Each item has a two part coding involving one of:

Four Working Conditions

Alone.....A
Group.....G
With teacher...T
With Class.....CL

Four Kinds of Content

Self.....S
Others.....O
Ideas.....I
Work.....W

Thus, an item might be coded in the following way: I G (which concerns working with ideas in a group)

REACTION TO GROUPS TEST---Items, in this instance, will have codings indicating three types of alternatives:

Step I I would do this.....WD
 I would not do this.....WN

Step II I think a girl would do this.....G
 I think a boy would do this.....B
 I think either a boy or a girl would do this....E

Step III I would feel good if someone else did this.....GOOD
 I would feel bad if someone else did this.....BAD

VALUES TEST---This section of the battery contains statements keyed to the five categories of value orientations developed by Charles Morris. A sixth category has been included to cover stereotypic responses. The categories are listed as:

Social Restraint and Self Control.....V 1
Adventure and Initiation of Change.....V 2
Withdrawal and Self Sufficiency.....V 3
Altruism and Concern for Others.....V 4
Sensual Enjoyment and Pleasure.....V 5
Stereotypic Response Category.....V 6

Thus, an item might be coded as V 1 (meaning that the statement is keyed to the category of Social Restraint and Self Control).

WORDS, WORDS, WORDS---A semantic differential test, associating 10 word-pair continua to 7 goal and person concepts. Each item for each concept is keyed to one of 5 dimensions.

Code Listing (continued)

Security.....SE
Rigidity.....RI
Potency.....PO
Evaluation.....EV
Activity.....AC

WHO SHOULD DECIDE?---The items have been grouped according to five possible authority agents who might make decisions involving progress, materials, conduct, and standards in the classroom. The five agents are:

You alone.....Y
Teacher alone.....T
Class-as-a-whole.....CLASS
You plus others, group...Y & O
You plus teacher.....Y & T

Classroom Dynamics:

A Questionnaire

Developed by the Staff
of the "Grouping Project",
under the auspices of the
U S Office of Education

Teaching-Learning Laboratory
School Improvement Program
University of Chicago
1959

* * * * *

Here is a list of activities that occur in the classroom. We have found that students have differing opinions as to which of these activities are the most meaningful and worthwhile. We would like you to indicate on the Response Sheet which of these activities mean most to you. There is no "right way" to respond to any of these items, so simply give your personal opinion about each one. Read all the items carefully and mark each in the appropriate space provided on the response sheet.

For each item (1-40) mark space:

- 1- if for you the activity is worthless - a waste of time
- 2- if for you the activity is not so good - slightly dull
- 3- if for you the activity is about average - neither exciting nor dull
- 4- if for you the activity is quite good - rather interesting
- 5- if for you the activity is highly worthwhile - get a good deal from it

(Be sure to start with Response Sheet I)

1. Have planning sessions in which the whole class is involved.
2. Work with a committee on a written report.
3. Take a test or quiz.
4. Take notes while the teacher lectures.
5. Review a test and correct mistakes.
6. Have a general class discussion led by another student.
7. Go on a field trip.
8. Work with a committee to prepare a lesson to present to the class.
9. Have teacher assign exercises for practice.
10. Work independently on a project you choose yourself.
11. Get individual help and instruction from the teacher while doing class work.
12. Listen to other students recite on assigned homework.
13. Be a member of a panel discussion.
14. Grade or evaluate your own performance in an activity.
15. Do research in the library for your term paper.

- 1- worthless - waste of time
- 2- not so good - slightly dull
- 3- about average - neither exciting nor dull
- 4- quite good - rather interesting
- 5- highly worthwhile - get a good deal from it

16. Have teacher lead a discussion in which basic principles are explained.
17. Take notes on a movie or film strip.
18. Have a class discussion on a topic suggested by the teacher.
19. Discuss with the teacher possible activities you could do.
20. Organize a group activity with a few other students
21. Explain a homework problem to the class.
22. Engage in class discussion of a movie or filmstrip.
23. Have a conference with the teacher concerning your progress in class.
24. Perform a demonstration or experiment for the class.
25. Discuss class material with a group of other students.
26. Have a spelling bee or some type of quiz game.
27. Prepare, on your own, to make a report to the class.
28. Listen to the teacher explain or demonstrate a lesson.
29. Participate in a class drill on fundamentals.
30. Work with other students in designing and completing a project.
31. Have teacher "crack down" on class order and discipline.
32. Watch as problems are put on the board by another student.
33. Study by yourself to prepare for a test.
34. Go to the library with your committee to do research.
35. Have teacher give specific instructions on how to do something.
36. Study basic course content as a member of a small group of students.
37. Begin homework assignments.
38. Be a member of a committee that plans a special event for the class.
39. Have teacher make it clear what is expected of the class.
40. Evaluate the quality of committee work with other group members.

Indicate your preference for each item (46-95) by blackening spaces:

- ### Sample:

(The black mark says that this activity, number 45, is, on the whole, rather unpleasant)

46. Hearing the ideas of other students during class discussion of some topic
47. Listening to others on a student committee discuss a topic on the agenda.
48. Reading a book and deciding what the author is really trying to say to you.
49. Telling a group of your friends you ideas and feelings about the plans they are discussing.
50. Pointing out good ideas and attacking bad ideas offered during class discussion.
51. Hearing another student make a spur-of-the-moment speech about himself to the class.
52. Listening to another student explain his ideas about a topic you both are familiar with.
53. Telling a group of friends your most intimate and personal feelings.
54. Listening to other members of a student committee talking about the anxieties and pleasures they experience in the committee.
55. Giving a prepared report to the class.
56. Being told by another student just what are your good and bad points.
57. Reading a story in which the author describes the innermost private feelings of the characters.
58. Having one of your friends give advice to the whole gang.
59. Thinking about an argument you might have used to persuade others.
60. Listening to another member of a student committee to which you belong explain about parliamentary rules.

- 1- very unpleasant indeed for you
- 2- on the whole, rather unpleasant for you
- 3- neither pleasant nor unpleasant
- 4- on the whole, rather pleasant for you
- 5- very enjoyable for you

- 61. Explaining to a group of friends how they ought to go about doing their job.
- 62. Making a speech to the class about your personal experience.
- 63. Telling a group of friends what is good or bad about their ideas and behaviors.
- 64. Telling another student your secret thoughts and hopes.
- 65. Thinking about all the things you have to do today.
- 66. Keeping class discussion on the beam by bringing the others back to the problem.
- 67. Telling a visiting student from another school about the program of courses taught in your school.
- 68. Having the teacher call on individual students by name to answer his questions during class discussion.
- 69. Hearing another student tell you what he would do if he were you.
- 70. Listening to a group of your friends very frankly criticizing each other's behavior and appearance.
- 71. Reading a book in order to learn all about some topic.
- 72. Listening to other students giving carefully prepared and detailed reports to the class.
- 73. Listening to others in a group of your friends discuss their ideas and beliefs about some problem you all have.
- 74. Critically comparing yourself to one of the characters in a TV show or play.
- 75. Telling a student committee your views about the project they are discussing.
- 76. Hearing others in a group of your friends tell their innermost feelings about their private problems.
- 77. Sitting by yourself remembering things that happened today.
- 78. Reporting to a group of your friends all about an article you read recently.
- 79. Giving another student your opinion of his strengths and weaknesses.
- 80. Being one of the more active persons during a lively class discussion.
- 81. Evaluating a TV program and criticizing the parts that are dull, silly, etc.
- 82. Telling a student committee what to do next when they appear mixed up or confused.
- 83. Having a student committee you belong to appraise the performances of the various members.
- 84. Trying to interest another student in some hobby or interest of yours.
- 85. Listening to a group of your friends discuss some event such as a football game they went to.

86. Telling another student your ideas about a problem you both have.
87. Hearing the class give opinions about the quality of their own discussion.
88. Writing a letter in which you explain your deepest feelings.
89. Having the chairman of a student committee explain exactly what everyone must do.
90. Hearing the private experiences of another student.
91. Sitting by yourself quietly thinking about things that interest or puzzle you.
92. Pointing out to a student committee in what ways its members are being helpful or making trouble.
93. Hearing a student from another school talk about his school.
94. Telling a student committee quite frankly how you feel about the various members.
95. Describing to a student committee what a similar committee did last year.

Most students have a general impression of what teachers are like; that is, they can describe a "typical" teacher. Students also have ideas about the sort of teacher from whom they can learn most, and the sort of teacher in whose class they feel most comfortable. In this section, you are asked to decide how well each of the six paragraphs describes your impression of the typical teacher, the one from whom you would learn most, and the one you are most comfortable with.

Thus, you will judge each paragraph three times. In each case blacken answer space numbered

- 1-- if the paragraph best fits your impression
- 2-- if the paragraph generally fits your impression, even though it is not quite accurate in some respects
- 3-- if the paragraph talks about other things so that you can't tell whether or not the teacher would fit your impression
- 4-- if the paragraph clearly is out of line with your impression
- 5-- if the paragraph contradicts your impression or describes the opposite of your impression

Use items numbered 106-111 to judge the paragraphs according to your impression of the typical teacher

Use items numbered 112-117 to judge the paragraphs according to your impression of the teacher you would learn most from

Use items numbered 118-123 to judge the paragraphs according to your impression of the teacher you would be most comfortable with.

(Be sure to skip to item 106, on Response Sheet I)

	For typical teacher use item	For learn most use item	For feel comfortable use item
A. This teacher really knows his subject. He keeps informed on the new ideas in his field. He likes to have students know about these things and he brings new ideas and information into his course. He spends extra time with students who show a particular interest in his subject.	106	112	118
B. This teacher plans learning activities with the students. He takes time to get suggestions from the students and tries to help them work out a plan with which they all are satisfied. He allows students a good deal of freedom in choosing people with whom to work and in deciding on what topics they will work within the plan.	107	113	119
C. This teacher makes sure that rules are clear from the start so that students will know what is expected of them. He reminds the students of the rules when he thinks they have forgotten them. He tries to help the students become aware of the necessity of meeting requirements	108	114	120
D. This teacher expects students to work independently and to take responsibility for seeing tasks through to the finish. He tries to challenge them to tackle problems that call for imagination and resourcefulness. He encourages students to search for possible solutions on their own and to try out ideas that seem worthwhile to them.	109	115	121
E. This teacher wants students to feel that he can be one of them. He knows a lot about what teen-agers like to do. He plans the work of the class around these things and enjoys discussing them in class.	110	116	122
F. This teacher makes use of a variety of materials and activities which he has worked out and tested in previous classes. He plans the work that the students are to do and tries to make it interesting to them. He expects them to be successful in their work and is interested to know how much they have gotten from it when it is finished	111	117	123

There is an amazingly large number of decisions that seem to affect learning. One way or another, each decision in the classroom is made by;

- A - You alone
- B - Teacher alone
- C - Class-as-a-whole
- D - You plus one or a few other students, as a small group
- E - You plus the teacher

The purpose of this questionnaire is to find out from both students and teachers, their opinions about who should make certain decisions. We are not asking what these decisions should be, but only who should decide.

Read each sentence. When you have decided which person or group (A,B,C,D or E) should make the decision, blacken the corresponding space (A,B,C,D or E) on Response Sheet II.

Sample:

1. What questions should be on a test?

A	B	C	D	E

(If you feel the teacher should make this decision, then you would blacken the space under column B for item #1.)

(Be sure to use Response Sheet II)

-
1. Whether your project group should meet after school.
 2. Whether, and under what conditions, you will work alone.
 3. How much help you should accept from another student.
 4. With whom you will work on a project.
 5. How worthwhile was your contribution to the class discussion.
 6. Where you "went wrong" in working a problem.
 7. To what extent the teacher should give you his personal opinion of yourself.
 8. What conclusions you should reach from a discussion of current-events.
 9. When a committee should ask one of its disturbing members to leave.
 10. How good a job the teacher did today.
 11. Whether the teacher should tell you an answer, or expect you to dig it out for your self.
 12. To what extent is the behavior of another student "out of line".
 13. How worthwhile was the class discussion today.
 14. How hard will you work on an assignment that you consider "stupid".
 15. Whether the committee you were on did a good job or not.
 16. Whether it is a good idea to see the school counselor about a personal problem.
 17. What type of project you will work on next.
 18. When you will come in for a conference with the teacher.
 19. Whether you will do extra-credit work.
 20. Who you should sit next to in class.

- A - You alone
- B - Teacher alone
- C - Class-as-a-whole
- D - You plus one or a few other students, as a small group
- E - You plus the teacher

- 21. Whether you are making satisfactory progress.
- 22. When you need to go to the library.
- 23. When your skit or report is ready to present to the class.
- 24. Whether it is alright to ask questions to end someone's boring report.

You will be presented with one-sentence descriptions of a lot of incidents of the kind that frequently occur in classrooms.

Each of these descriptions is given in an incomplete sentence that can be finished in either of two ways, A or B. Decide which way you prefer to finish each sentence. On the separate response sheet, either A or B (not both) should be marked opposite the number of the sentence, to complete the sentence.

Make your selections quickly. Don't linger over the items- your first impression is good enough.

Please do not leave out any items.

(Be sure you skip to item 31, on Response Sheet II)

-
- 31. When I wanted to work with Frank, I...
 - A. felt we could do well together.
 - B. asked if it would be alright with him.
 - 32. When the group wanted his views about the task, Sam...
 - A. wondered why they wanted his views.
 - B. thought of what he might tell them.
 - 33. When the leader made no comment, I...
 - A. offered a suggestion of what to do.
 - B. wondered what to do next.
 - 34. When Don said he felt closest to me, I...
 - A. was glad.
 - B. was suspicious.
 - 35. When I felt helpless, I...
 - A. wished that the leader would help me.
 - B. found a friend to tell how I felt.
 - 36. When Henry was annoyed, Ray...
 - A. thought of a way to explain the situation to him
 - B. realized just how he felt.
 - 37. When Ned felt eager to go to work, he...
 - A. got mad at the late-comers.
 - B. wanted to team up with Jim.

38. When Glenn bawled me out, I....
A lost interest in what we were supposed to be doing.
B thought that some of his ideas would be useful.
39. When the leader lost interest, Mort....
A suggested a way to get everybody working.
B started talking with his neighbors.
40. When Phil felt warm and friendly, he....
A accomplished a lot more.
B liked just about everyone.
41. When the leader was unsure of himself, Norm....
A wanted to leave the group.
B didn't know what to do.
42. When the group just couldn't seem to get ahead, I....
A felt like dozing off.
B became annoyed with them.
43. When the group wasn't interested, I....
A just didn't feel like working.
B thought that the leader should do something about it.
44. When the leader said he felt the same way I did, I....
A was glad that I had his approval.
B thought we would probably begin to make progress now.
45. When I became angry at Jack, I....
A felt like dozing off.
B ridiculed his comments.
46. When the leader wanted me to tell the class about my plan, I....
A wished I could get out of it.
B wished that he would introduce it for me.
47. When Art criticized Bert, I....
A wished that the teacher would help Bert.
B felt grateful to Art for really expressing what we both felt.
48. When Henry and Mary enjoyed each other's company so much, I....
A thought that I'd like to leave the room.
B felt angry.
49. When the leader changed the subject, Al....
A suggested that they stick to the original topic.
B felt glad that the leader was finally taking over.
50. When the others became so keen on really working hard, I....
A made an effort to make really good suggestions.
B felt much more warmly toward them.
51. When I felt angry enough to boil, I....
A wanted to throw something.
B wished that the leader would do something about it.

52. When Lee was not paying attention, I....
A did not know what to do.
B wanted to tell him he was wasting our time.
53. When Harry thought that he needed a lot of help, Martin....
A warmly encouraged him to get it.
B helped him analyze the problem.
54. When Jack reported his results so far, I....
A laughed at him.
B was bored.
55. When everyone felt angry, I....
A suggested that they stop and evaluate the situation.
B was glad that the leader stepped in.
56. When no one was sticking to the point, I....
A got bored with the whole thing.
B called for clarification of the topic.
57. When Herb said he felt especially friendly toward me, I....
A wanted to escape.
B wanted to ask his advice.
58. When the group agreed that it needed more information about how members felt, I....
A described my feelings to the group.
B wasn't sure I wanted to discuss my feelings.
59. When the leader offered to help Carl, Joe....
A wanted help too.
B resented the leader's offer.
60. When Dave and Lou argued, I....
A asked Hank how he felt about them.
B hoped they would slug it out.
61. When Chuck felt especially close to Steve, he....
A let him know it.
B hoped he could turn to him for assistance.
62. When several members dropped out of the discussion, Henry....
A thought it was time to find out where the group was going.
B got sore at what he thought was their discourtesy.
63. When Stan told me he felt uncertain about what should be done, I....
A suggested that he wait awhile before making any decisions.
B suggested that he get more information.
64. When Jim realized that quite a few people were taking digs at each other, he....
A wanted to call the group to order.
B got angry at the stupidity of their behavior.
65. When the group suggested a procedure, I....
A thought the teacher ought to express his approval or disapproval of it.
B thought we ought to decide whether to carry it out.

66. When Ed seemed to be daydreaming, Bill....
A winked at Joe.
B felt freer to doodle.
67. When Tom and Mary arrived twenty minutes late for the meeting, the group....
A went right on working.
B was very annoyed.
68. During the argument, Roy's opposition caused Earl to....
A withdraw from the discussion.
B look to the teacher for support.
69. When Marvin suggested we evaluate how well we were working as a group, I....
A was glad that the period was almost over.
B gladly backed him up.
70. When the group seemed to be losing interest, Pat....
A became angry with the other members.
B thought it might just as well adjourn.
71. Together John and Fred....
A wasted the group's time.
B supported one another's arguments.
72. When Mal offered to help me, I....
A said I was sorry, but I had something else to do.
B was pleased that we would be partners.
73. When the other group became so interested in their work, George....
A wanted to ask their leader if he could join them.
B felt resentful that his group was so dull.
74. When Art left the meeting early, Dick....
A and Michael told each other what they felt about Art.
B was glad that he had gone.
75. When Lou turned to me, I....
A wished that he would mind his own business.
B asked him for help.
76. When Hal felt hostile to the group, he....
A wished he would not have to come to the meeting.
B was glad that Bob felt the same way.
77. While Dan was helping me, I....
A became annoyed with his superior attitude.
B felt good about being with him.
78. When I lost track of what Paul was saying, I....
A asked the teacher to explain Paul's idea to me.
B was pleased that it was Mike who explained Paul's idea to me.
79. While the group was expressing friendly feelings toward Bill, Ken....
A thought that now Bill would be able to work.
B opened a book and started to read.
80. When the leader offered to help him, Pete....
A said that he did not want any help.
B realized that he did need help from someone.

We have classified activities as being Ways of Doing Things: with a teacher in a class, with a few others, or by yourself. As students participate in activities of these kinds they are often aware of certain disadvantages. On the next two pages you will find a number of disadvantages that various students have told us about. To some extent each kind of activity may have some of these disadvantages for you too. Please indicate, in your opinion, how often each of the following disadvantages is likely to occur. The ratings to be used are as follows:

- A- almost always
- B- frequently
- C- often as not
- D- occasionally
- E- almost never

Read each sentence. When you have decided how often each disadvantage occurs for you, blacken the space under the appropriate letter on the answer sheet.

(Be sure to skip to Item 91 on Response Sheet II)

91. When doing things in a class I forget ideas that have been explained previously.
92. When talking with a teacher I lose the thread of conversation.
93. When doing things with a few other students I get confused in my work.
94. When doing things as a member of the class I get into trouble with others.
95. When doing things by myself I delay getting started on work.
96. When discussing things with a teacher I lose interest in ideas.
97. When doing things with a few other students I become upset easily.
98. When doing things as a member of a class I get distracted from my work.
99. When doing things alone I find it hard to think clearly about myself.
100. When doing things with a few other students I get into trouble.
101. When I have work to do with a teacher I don't feel like getting started.
102. When doing things as a member of the class I become upset easily.

- A - almost always
- B - frequently
- C - often as not
- D - occasionally
- E - almost never

- 103. When doing things by myself I lose interest in ideas.
- 104. When doing things with a teacher I feel very little enjoyment.
- 105. While doing things with a few other students I forget ideas that have been explained.
- 106. When doing things by myself I think about things I want to say to others.
- 107. When doing things in a class I find it hard to consider ideas.
- 108. When doing something with a teacher I have difficulty talking.
- 109. When doing things with a few other students I waste time.
- 110. When doing things in a class I lose interest in what others say.
- 111. When doing things by myself I get distracted from work easily.
- 112. When discussing things with a teacher I find it hard to consider ideas.
- 113. When doing things with a few other students I feel very little enjoyment.
- 114. When doing things as a member of a class I get confused in my work.
- 115. When doing things by myself I become upset easily.
- 116. When doing things with a few other students I have difficulty talking.
- 117. When I do something with a teacher I get confused in my work.
- 118. When doing things as a member of the class I feel very little enjoyment.
- 119. When doing things by myself I have difficulty understanding ideas.
- 120. When doing things with a teacher I find it hard to think clearly about myself.
- 121. When doing things with a few other students I find it hard to consider ideas.
- 122. When doing things by myself I think about people I dislike.
- 123. When doing things as a member of a class I get confused in my thinking.
- 124. When doing something with a teacher I feel difficulty in asking for help.
- 125. When doing things with a few other students I learn very little for my work efforts.
- 126. When discussing things in a class I have difficulty talking to others.
- 127. When doing things by myself I get confused in my work.

- A- almost always
- B- frequently
- C- often as not
- D- occasionally
- E- almost never

- 128. When doing something with a teacher I get confused in my thinking.
- 129. When doing things with a few other students I have difficulty expressing my feelings.
- 130. When doing things as a member of a class I learn very little for my work efforts.
- 131. I feel very little enjoyment when doing things by myself.
- 132. When doing things with a few other students I feel difficulty in getting help as needed.
- 133. When doing something with a teacher I waste time.
- 134. When doing things as a member of the class I have trouble expressing my feelings.
- 135. When doing things by myself I find it hard to consider ideas.
- 136. When doing something with a teacher I become upset easily.
- 137. When doing things with a few other students I get confused in my thinking.
- 138. When doing things by myself I feel difficulty in not being able to get help as needed.

* * * * *

In any situation there are a number of ways of acting which you or any other person might choose. You are being asked to choose some of these ways of acting.

On the next page is a description of a situation and fifteen possible ways of acting. These ways are numbered 1-15, corresponding to items 1-15 on Response Sheet III. You will deal with these ways of acting in three steps.

Step I: For each way of acting (1-15), blacken space:

- 1- if you would act this way in this situation
 - 2- if you would not act this way in this situation
- OR

Step II: Now picture all the ways of acting being done by someone else. Then, for each way of acting (1-15), blacken space:

- 3- if you think a girl would act this way
 - 4- if you think a boy would act this way
- OR

- 5- if you find it impossible to see any difference between a boy or a girl acting in this way

Step III: Now think how you would feel if someone else were to do these things. Then, for each way of acting (1-15) blacken space:

- 6- if you would feel good
- 7- if you would feel bad

Step I - choose between:

- (1) I would do this.
- (2) I would not do this.

Step II - choose among:

- (3) I think a girl would do this.
- (4) I think a boy would do this.
- (5) I think either a boy or a girl would do this.

Step III - choose between:

- (6) I would feel good if someone else did this.
- (7) I would feel bad if someone else did this.

For each way of acting (1-15) be sure you have darkened one space (1 or 2) for Step I, one space (3,4 or 5) for Step II, and one space (6 or 7) for Step III.

(Be sure to use Response Sheet III)

Situation:

You are a member of a small group which is trying to think up a project which they will work on together and present to the class. Quite a few ideas have been offered and there is strong disagreement among the group members about which of the ideas is the best.

Items:

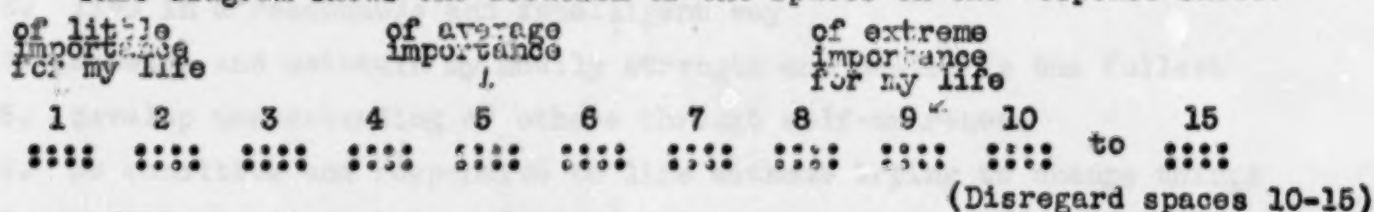
1. Suggest some aims that the project should have.
2. Tell the group to stop acting like babies.
3. Excuse yourself politely and leave the discussion.
4. Show your friendly support to the ideas of others.
5. Tell the group to select a leader to tell them what to do next.
6. Think to yourself about the different ideas the group has to choose from.
7. Insist that each person show exactly how his idea will work.
8. Just wait quietly for the group to settle its differences and reach some agreement.
9. Whisper to a neighbor the way you feel.
10. Decide for yourself which idea most of the others think will work, in order to make up your own mind.
11. Get the group to look calmly at the fact that they are showing a lot of personal feeling.
12. Strongly defend your own point of view against the attack of others.
13. Suggest a completely new topic that would be easier for the group to discuss.
14. Agree in a friendly way with the feelings of others that are like your own.
15. Go and ask the teacher what he would do if he were you.

The following questionnaire is concerned with personal values. It contains a list of sixty statements all of which describe an important and desirable approach to life. We want you to rate them according to how important you think each is for your own personal life.

Read each statement carefully. If the statement describes an approach to life which for you is of extreme importance, then fill in space 9 on the response sheet; if you feel the statement is of average importance then fill in space 5; or if for you the statement is of little importance, then fill in space 1. The spaces numbered 2 - 4 and 6 to 8 should be used to rate statements which you think fall somewhere between these points.

Remember you are to rate the statements to the degree you think they describe ways of living which will help you get the most out of life. A 1 rating does not mean that you consider the statement to be unimportant. It simply means that in your opinion, for your own personal life, it is of little importance. Likewise, the 9 rating should be given to statements which you think are of extreme importance for your own personal life. Probably everyone will consider some statements to be of extreme importance for his personal life, while at the same time he will see others as being of little importance. Think carefully about each statement and use the whole range of responses 1 through 9.

This diagram shows the location of the spaces on the Response Sheet.



To get the most out of life I think it is important to...

16. hold my feelings in check and live a life of self-control
17. have confidence in my personal strength and ability to do things on my own
18. cherish personal privacy and the chance it affords to simply be myself
19. live a life of service to others
20. relax and enjoy every possible moment
21. live a life in which the interests of others are put ahead of my own
22. do things actively and with enthusiasm
23. find the center or real meaning for life within myself, e.g., self-awareness
24. use the wisdom of the past in order to make a better future
25. experience simple physical pleasure to the fullest

of little
importance
to my life

-17-

of average
importance

of extreme
importance
for my life

1 2 3 4 5 6 7 8 9 10 to 15
::: ::: : 4: 5: 6: 7: 8: 9: : to :
::: : 4: 5: 6: 7: 8: 9: : :

(Disregard spaces 10-15)

-
26. behave in a self-disciplined manner
 27. have time to think about the deep issues of my personal life
 28. be at ease both physically and mentally without being too ambitious
 29. live in close relationship with others sharing their joys and sorrows
 30. live an adventuresome, daring life
 31. plunge courageously into the challenges of life
 32. become a responsible, conscientious citizen
 33. enjoy good food and drink with a group of friends
 34. be aware of and understand my innermost thoughts
 35. be grateful and undemanding in my acceptance of life experiences
 36. live in a reasonable and intelligent way
 37. develop and maintain my bodily strength and health to the fullest
 38. develop understanding of others through self-awareness
 39. be sensitive and responsive to life without trying to change things
 40. be able to find pleasure in new experiences at any time
 41. overcome, dominate, or conquer obstacles that hinder human progress
 42. live a well-organized and productive life
 43. be willing to make sacrifices for the welfare of others
 44. realize that attaining future goals is more important than present pleasure
 45. have much freedom at home, school and work
 46. actively compete for the rewards of life
 47. try always to act in a socially acceptable manner
 48. be able to do things that are new and interesting even if they are risky
 49. realize that though the world is disappointing I can find happiness in me
 50. learn that affection and love for others is one of the main joys in life

Turn to Response Sheet IV and continue

1. be able to enjoy things as they are
2. live a refined and well-mannered life
3. work hard on my own and pioneer some endeavor
4. find the most enduring satisfactions within myself
5. live in harmony with nature and other men

of little
importance
for my life

of average
importance

of extreme
importance
for my life

1: 2: 3: 4: 5: 6: 7: 8: 9: 10: to 15:

(Disregard spaces 10-15)

6. tackle the job of changing society and making a better world
7. fully experience present pleasure and not worry about the past or future
8. live a moral life of high ideas
9. live a quiet, unassuming life that allows time for thought and meditation
10. have sympathetic appreciation for the feelings of other people
11. be able to enjoy life without working too hard
12. master the world I live in by use of science, tools, and bodily energy
13. cultivate a wide circle of useful acquaintances
14. be the kind of person in whom others will want to put their trust
15. "go it alone," for the most part, and not be dependent on others
16. work hard to attain the good things of life honestly
17. be able to let oneself go and really enjoy life
18. get out and do things and not merely be a thinker or spectator
19. find inner peace and contentment through self-understanding and independence
20. have confidence in other people and the world in general
21. free myself from the burdens of care and worry and simply enjoy life
22. be thrifty and plan for tomorrow
23. live by the rule of loving my neighbor as myself
24. trust in the goodness of nature and life in general
25. be a credit to my family and community

Words or ideas mean different things to different people.

On the following pages you will find several words written in capital letters and underlined. Below each such word, you will find 10 descriptive scales, like this:

13. Fair 1 2 3 4 5 6 Unfair

Describe the underlined idea by selecting where it fits along each of the scales, locations 1- 6. Opposite the number of the scale on Response Sheet IV blacken the space, 1,2,3,4,5, or 6 corresponding to the place where the word fits along the scale.

Sample:

13. :1:: :2:: :3:: :4:: :5:: :6:: | :7:: :8:: :9:: :10:: :11:: etc to 15
(Disregard these spaces)

By blackening space 5, scale 13, we have indicated that some idea was somewhat "unfair".

Please do not omit any of the scales, and please indicate only one position per scale.

Sometimes it may seem to you that a scale is not related to a meaning or feeling you have about the underlined idea; nevertheless we would like to have you rate it anyway... It is your first impressions, the immediate "feelings" about the words, that we want. On the other hand, please do not be careless because we want your true impressions.

(Be sure to skip to item 31, Response Sheet IV)

BEING POPULAR

is

31.	Tight	1	2	3	4	5	6	Loose
32.	Safe	1	2	3	4	5	6	Dangerous
33.	Ugly	1	2	3	4	5	6	Pretty
34.	Weak	1	2	3	4	5	6	Strong
35.	Old	1	2	3	4	5	6	New
36.	Thin	1	2	3	4	5	6	Fat
37.	Dry	1	2	3	4	5	6	Wet
38.	Loud	1	2	3	4	5	6	Soft
39.	Good	1	2	3	4	5	6	Bad
40.	Little	1	2	3	4	5	6	Big

GIRL

is

41.	Tight	1	2	3	4	5	6	Loose
42.	Safe	1	2	3	4	5	6	Dangerous
43.	Ugly	1	2	3	4	5	6	Pretty
44.	Weak	1	2	3	4	5	6	Strong
45.	Old	1	2	3	4	5	6	New
46.	Thin	1	2	3	4	5	6	Fat
47.	Dry	1	2	3	4	5	6	Wet
48.	Loud	1	2	3	4	5	6	Soft
49.	Good	1	2	3	4	5	6	Bad
50.	Little	1	2	3	4	5	6	Big

(Go on to Response sheet V, item 1)

BEING COMFORTABLE

is

1.	Tight	1	2	3	4	5	6	Loose
2.	Safe	1	2	3	4	5	6	Dangerous
3.	Ugly	1	2	3	4	5	6	Pretty
4.	Weak	1	2	3	4	5	6	Strong
5.	Old	1	2	3	4	5	6	New
6.	Thin	1	2	3	4	5	6	Fat
7.	Dry	1	2	3	4	5	6	Wet
8.	Loud	1	2	3	4	5	6	Soft
9.	Good	1	2	3	4	5	6	Bad
10.	Little	1	2	3	4	5	6	Big

HAVING POWER

is

11.	Tight	1	2	3	4	5	6	Loose
12.	Safe	1	2	3	4	5	6	Dangerous
13.	Ugly	1	2	3	4	5	6	Pretty
14.	Weak	1	2	3	4	5	6	Strong
15.	Old	1	2	3	4	5	6	New
16.	Thin	1	2	3	4	5	6	Fat
17.	Dry	1	2	3	4	5	6	Wet
18.	Loud	1	2	3	4	5	6	Soft
19.	Good	1	2	3	4	5	6	Bad
20.	Little	1	2	3	4	5	6	Big

-: -

BOY

is

21.	Tight	1	2	3	4	5	6	Loose
22.	Safe	1	2	3	4	5	6	Dangerous
23.	Ugly	1	2	3	4	5	6	Pretty
24.	Weak	1	2	3	4	5	6	Strong
25.	Old	1	2	3	4	5	6	New
26.	Thin	1	2	3	4	5	6	Fat
27.	Dry	1	2	3	4	5	6	Wet
28.	Loud	1	2	3	4	5	6	Soft
29.	Good	1	2	3	4	5	6	Bad
30.	Little	1	2	3	4	5	6	Big

WORK

31.	Tight	1	2	3	4	5	6	Loose
32.	Safe	1	2	3	4	5	6	Dangerous
33.	Ugly	1	2	3	4	5	6	Pretty
34.	Weak	1	2	3	4	5	6	Strong
35.	Old	1	2	3	4	5	6	New
36.	Thin	1	2	3	4	5	6	Fat
37.	Dry	1	2	3	4	5	6	Wet
38.	Loud	1	2	3	4	5	6	Soft
39.	Good	1	2	3	4	5	6	Bad
40.	Little	1	2	3	4	5	6	Big

Appendix 2 - Open - - - - -

Category: MYSELF

is

41.	Tight	1	2	3	4	5	6	Loose
42.	Safe	1	2	3	4	5	6	Dangerous
43.	Ugly	1	2	3	4	5	6	Pretty
44.	Weak	1	2	3	4	5	6	Strong
45.	Old	1	2	3	4	5	6	New
46.	Thin	1	2	3	4	5	6	Fat
47.	Dry	1	2	3	4	5	6	Wet
48.	Loud	1	2	3	4	5	6	Soft
49.	Good	1	2	3	4	5	6	Bad
50.	Little	1	2	3	4	5	6	Big

Appendix D - Observation Schedule #1

Categories and Rationale

A SUMMARY OF CATEGORIES EMPLOYED IN OBSERVATION

Statements by: Teacher
Students

B Statements addressed to: Teacher
Students
Class-as-a-whole

1. Topic of Discussion

- I - idea-centered; subject matter, opinions about experiences and ideas of phenomena outside the classroom.
- A - Activity-centered; instructions, work demands, rationale, reactions to learning activities.
- G - Group-centered; group standards, morale, organization, roles.
- P - Person-centered; needs, values, personality of individual qua person.

2. Concern: relation to inquiry: operations

- R - relationships among concepts; interpretative, explanatory.
- D - data, facts, quoted statements, part of culture; descriptive, remembered.
- S - subjective opinion; awareness of own experience; fantasy, hunch, opinion.
- I - impulsive, spontaneous acting out; exclamation, attack.

3. Frame of Reference

- P - Professional; behavior determined by reality factors; involves making of choices; inquiry-oriented.
- T - Technical; behavior determined by rules and prior considerations such as defined procedures, ground to be covered; achievement-oriented.
- S - Self-concerned, personal; behavior determined by own feelings, desire to promote and maintain personal role. Self-oriented.
- G - generalized, adult; behavior is effort to socialize child within community stereotypic values of respect, tolerance, hard work, etc.

4. Emotionality

a. Fight:

- T - by teacher; threatening, punitive, directed at class; affects climate.
- D - by teacher; defensive, usually directed at class.

b. Dependency:

- S - submissive; "tell me what you want me to do"
- W - weak or inadequate; "I'm weak; be sympathetic; don't hit me"
- R - rules; "what is the right way; what does the book say; what is the procedure we agreed on"

c. Flight:

- I - irrelevant; off the point, wandering, withdrawn, non-purposive, lost.
- E - escape; tension release through changing subject, humor, adjournment.
- B - breakdown; disorganized, incoherent, repetitious, fighting for time.

d. Pairing:

- P - with person
- G - with group

e. Unidentifiable affect: A

f. Usefulness of humor: **, +, -, --

1. Topic of Discussion

In the classroom, conversation may be about ideas, activities, group organization and standards, or persons. Often it is about two of these at the same time. Topic of discussion is to be judged entirely apart from all the other categories such as how it is discussed, what sort of emotionality it contains, whether it is opinion and not fact, etc. The question for the observer is, "What is this statement talking about?". In most cases it is expected that this will be obvious; in some cases not. In an obvious case both the intent and the content agree; in non-obvious cases, it is likely that the intent belies the surface appearance of the content.

Ideas---I

"Subject matter", presentation of ideas or opinions, reporting of relevant experiences, working on problems and thought questions. This category is confined to subject-related discussion, and specifically excludes discussion of group standards, giving of instructions, etc. But it does include evaluative reactions to ideas (so long as it is the idea that is being evaluated with little or no regard for who said it). It includes things one is reminded of--free associations--so long as they refer to experiences which extend, illuminate, contrast, etc. with the material under discussion. Ideas does not include any of the material defined in the other three categories, although they may appear along with such material. Examples:

That idea is incorrect. You have the wrong answer.

I agree with that idea. What do you think about this? (idea)

That's an easy mistake to make.

If wages go up, so will prices; what good is it to raise wages?

What problem arises over and over in this connection?

How many of the class have ever been on a ranch?

What do you girls admire about the heroine in the story?

All descriptions, explanations and interpretations of experiences related to course content.

(Note: The predominant element being reacted to is the ideational content. In some cases, the teacher's questions are also implicitly instructions, and might be confused with Activity; let us agree that questions simply to get more facts or opinions, or to clarify meanings belong in the category of ideas; the distinction is between doing (activity) and procedures and purposes consciously and explicitly sought.

through a sequence of actions versus thoughts presented with no particular consciousness of a method of inquiry or of self as actor.)

Activity---A

Learning activities, jobs to be done, assignments, are the subjects of discussion. The activity may be individual, subgroup or group. It is planned, has purposes, requires consciousness of procedures, has a set of reasons which justify the procedures. The evaluation of worth; but note that the topic is some aspect of action one engages in or is thinking about engaging in. Substantive assumptions and propositions are ideas, but assumptions about how to proceed come under activity. Examples:

May we (pupils) play the racing game today?

If nobody has further questions (about the proposed test) you should all be able to get A's.

There's a TV show this weekend that you would enjoy.

Let's have volunteers to put problems on the board.

We won't be able to finish at this rate, so I'll take over.

Everybody write down the assignment so there will be no confusion tomorrow.

Draw our lines in diagramming exactly as shown in the book.

Read the question from the sheet and then give your answer.

Who would like to prepare and give a report on gerrymandering?

Group---G

The topic of conversation is the group, its culture, values, generalized expectations of members, needs, etc. Comments in this category are likely to have a long-range influence on climate and culture. A very frequent kind of teacher comment is primarily to reinforce the values or standards of punctuality, work, accuracy and expenditure of effort. These comments are meant to be for the group to hear, even though they may be occasioned by and addressed to one person. The reactions of members to the group as an organization fits here, as well as comments evaluating the group (we are a good group, we did well). Comments about its specific performance on tasks, however, belong under activity. Comments about what will have to be done in order to carry out an activity belong under activity, but comments about who is going to do each of these things come under group.

Examples:

Mike did a good job, even though he did not follow the outlined procedure. (originality)

I feel very bad about a theme turned in without thought.

Going to the basketball game won't get you into college--mastering algebra possibly will.

Nobody likes to work hard, but you'll thank me someday for making you work.

When you got to the board, write large enough for everyone to read. (rules)

If you haven't the material with you, why come to class? (preparation)

Quiet down, now!

The class showed up badly on that test.

Personal---P

The topic of conversation is the individual--his personality, needs, values, attitudes, etc. His ideas and performance fit only to the extent that it matters that he is the one who uttered them; not for this category are ideas reacted to as data for the group to use to reach a conclusion or to solve a problem, nor ideas reacted to as expressing a feeling of the group. Ideas in this category are reacted to as an extension of the self of the individual. Those aspects of interpersonal exchange that are oblivious to the rest of the class fit here; those aspects designed to be overheard by the class fit under group. Evaluative comments fit here to the extent they evaluate the person rather than the validity of his ideas or the perfection of his performance. (Thus "Good idea!" fits under ideas, but "Good idea, Carol!" fits under both ideas and personal, since it gives explicit recognition to the person.)
Examples:

Why don't you stay home?

Stop whispering, John.

I agree with that, Jack.

Mike did a good job....

Doggone, get your hand up--you make me sleepy.

I'm glad to hear you didn't finish for once, Mitch.

Jack be quiet. We've heard enough from you.

Karen surprised even me by doing so well. Ha. Ha.

Dual ratings--Many sentences have components of two or more of the above categories. If they were broken down phrase by phrase, a single category might be assigned to each phrase. But if the unit being rated is the entire sentence--or the entire contribution--then it is enough to note only the dominant category.

2. Level of Concern

There are five categories: universals; reasons; objective data; subjective data; impulses. The categories make several continua: abstract to specific; contemplative to emotional; "outer" to "inner". They are arrived at by quite different mental activities: significant generalizations of ideas or values; interpretation and explanation; citing of written or authoritatively presented ideas; giving one's opinion about specific elements in a situation; "popping off" spontaneously and affectively.

They express different concerns:

- P - a philosophical interest in the nature of man and the universe
- R - a concern with finding relationships among concepts or variables
- D - an effort to describe the world in objective terms
- S - a concern with one's own (subjective) awareness of his experience
- I - a spontaneous "acting out" of impulses to relieve tension.

In our model of inquiry, we tend to think of impulses, subjective data and objective data as information to help know or describe the situation; and of the reasons and universals as useful to understand, account for, and find significance in the situation. We should expect to find some movement between and among these levels; and would tend to think of such movement as the way to find "meaning".

The thing to be rated is the concern of the comment. Generally speaking, we conceive the category D, an effort simply to describe the world, as the teaching mode called "covering the ground". "Critical thinking" would certainly involve category R. Reflective thinking on "broad meanings" and tendencies would be category P. Concern with how students react to the other three categories would be category S. Responses unmediated by consciousness would be category I.

There is one tricky aspect to category D, covering the ground. The "ground" may include broad generalizations, reasons, etc., which are to be memorized and which operate primarily as cliches or stereotypes in the student's mind. In this case, although the comments take the form of P or R statements, they are still actually D statements--simply a part of the objective information the kid learns without

internalizing. In other words, the concern is to discover what has already been formulated by others and put into books and lectures rather than to find significance or develop skills of interpretation, explanation and prediction.

Thus, the "level of concern" can also be thought of as the kind of mental operation signified by the statement. The reason for thinking of these categories as concerns rather than as operations is to make room for questions. Thus, the teacher may inquire about the "broad view of man implied in this incident"; this expresses a concern for the P level but is not itself a result of P level mental operation.

Reactions to statements at these different levels will not necessarily be on the same level as the statement. Thus the P statement, "The purpose of life is to get ready for death" could be reacted to at all five levels: "Baloney" (I); "that idea makes me uncomfortable" (S); "the author of that idea is Groobnitz" (D); "in that case I don't see how you would explain the development of arts and sciences" (R); "This idea expresses a feeling that all men have" (P).

Examples:

P level--Philosophical

What does Pearl symbolize? (character in story)

What do you think about Descartes' "I think, therefore I am."-- what is he trying to get at?

What basis for the necessity of nations getting along together do you see in modern developments of communication, travel and warfare?

The theme is the struggle of man against nature...an epic theme.

R level--Relationships

Does war make a country prosperous?

Who sets production rates in manufacturing?

Do you believe it (this explanation) and why or why not?

Show how international relations is influenced by trade and production.

Compare the treatment of superstition by Poe and Melville.

What were the differences between Silas Wither and Ebenezer Scrooge as misers?

All right, class, how will we apply this formula to plotting our graph?

What interpretation shall we make of these test scores?

D level--Information, givens, Descriptive, mundane orders

How long do you want the themes to be?

An extraneous root is defined as follows..

The line separating subject from predicate should go straight up and down.

Let's have some volunteers who have completed the assignment to put it on the board

Who was in the first cabinet? How did political parties get started in the U.S? (Book)

Who will give a sketch of Melville?

Read the question from the sheet and then give your answer.

What are the three kinds of Federal powers indicated by the U.S. Constitution?

S level--Subjective

That's fun and not a learning experience. I don't care about the people in the problem.

You should all get A's tomorrow.

A class can drive a teacher crazy.

How can you spell a word right 25 times one day and misspell it the next day?

Well, I'm glad to hear that you didn't finish for once, Mitch.

I feel very bad about a theme turned in without thought.

Nobody likes to work hard.

Note: Some comments could be either R or S level depending on what quality of mental operations produced them. Thus the following could be asking for interpretations from data already presented (R level) or they could be inviting unthoughtout opinion:

The U.S. was not very prosperous at the close of the Revolution. Why do you suppose this was so?

How could it occur that rural state populations dominate the legislature even though most people live in the cities?

Similarly, a theory might be offered as the rationale for some practice under consideration (R level) or it might be used as a subjective rationalization for one's own attitudinal bias (S level).

Latest educational theory says that the best education takes place when the student's are following their own interests, thus exploiting a "natural" educational opportunity.

You can't get anything out of reading unless you concentrate; and this requires effort.

I level--Impulsive

Doggone, get your hand up. You make me sleepy.

Jack be quiet. We've had enough from you.

Karen surprised even me by doing well. Ha Ha.

Bruce, What's your trouble? (irritated)

Think you will have any cookies left for lunch?

If it fails we'll all bow our heads in shame.

3. Teacher Role

A role is a set of expectations consistently held with respect to the performance of a function. Each teacher develops a set of expectations about how he shall teach; and these expectations appear to be held both by himself and by others. Underlying these expectations is the philosophy or point of view about the nature and method of teaching. Each behavior of the teacher is more or less consistent with his expectations.

Since, however, life in the classroom and the teacher-pupil relationship comprehends much more than the function of teaching, one might suppose that teachers at different times take several different roles, only one of which was primarily a "teaching" role. Thus the teacher is also a representative of the opinion of the adult community, a surrogate for authority, a counselor, a friend or enemy of particular children, an administrator, etc. His enactment of those other roles should, of course, not conflict with his role as teacher or guide of learning.

The categories to be described now lie beneath the details of role enactment; they are basically frames of reference within which the role-performance is understandable. These frames of reference imply a philosophy about teaching as well as identification with a particular reference group.

II - Professional

The frame of reference of a professional is organized around these basic postulates: that choices of behavior and procedure must be partly dependent on the realities in each situation (flexibility); that the demands to be met are to be deduced from an idea of "what needs to be done" rather than from the purpose of simply maintaining a procedure or relieving the teacher's anxiety; that there is a "discipline" to be learned, and this discipline is important. In the "professional" category we find teacher behaviors that recognize realities (individual differences, feelings); that signify efforts to diagnose; that show awareness of alternative ways of doing things; that encourage the learner to practice and understand the knowledge-discipline; that help encourage the group to see what roles are needed for different learning activities. This frame of reference can be summed up as inquiry-oriented.

Examples:

Mike did a good job even though he changed the procedure.

A person can know "the facts" and still not act in accordance with them. Grading (giving marks) in social studies is hard. Should we grade on behavior?

To understand the background is more complex, though in the end more understanding than confusion will occur.

I agree with that, Jack, and think it would be worth discussing further.

There's a TV show this weekend dealing with Mayan culture.

Wars often make for prosperity, but the U.S. was not very prosperous at the close of the Revolution. Why do you suppose this was so?

How did I arrive at this formula?

Having gotten this far, what do you think we as a group need to plan to do next?

Can you develop a proof for this notion?

I - Technical

The frame of reference of the technician is organized around these basic postulates: a complex function may be logically broken down into a sequence of steps; all instances of each step are identical; there is a "best" procedure to be employed for accomplishing each step. The technician works by formula more than purpose; his diagnosis goes no further than deciding on the step the group is involved in. He sees the classroom as a processing plant, and his job is to maintain

a set of policies dictated by inflexible and unchangeable requirements; he sees the need for some accommodation or adjustment of individuals to the requirements and procedures; but he does not see individual differences as data to use in creating new procedures or in re-interpreting policies. Procedures are ends in themselves, and knowledge is defined as the organized information in the textbook. This frame of reference can be summed up as "achievement" rather than inquiry-oriented.

Examples:

There need be no talking while handing in papers.

Write large enough for everyone to read. Now do it right.

I don't care about the details; get to the problem.

We won't have time to finish the story at this rate, so I'll read it to you myself.

I don't know what extraneous means, but an extraneous root is defined as follows.

The line separating subject from predicate should be straight up and down.

Everybody write this down so there will be no confusion.

§ - Self-concerned, personal

The frame of reference of the self-concerned teacher is his own personal comfort. His purposes are to meet his own needs for power, love, etc; and such need-meeting is the route to comfort. Withall's categories of self-justification, capricious criticism, and steam-rollering fit here. Also attempts to be a good guy. The sort of teacher who is usually considered "inadequate" is likely to show a blend of self-concern and technical, for the rigid procedures may be fallen back on since he hasn't the ego strength to think on his feet in the face of shifting classroom conditions. On the other hand, there may be a complete absence of technical, since the rigid demands generated by fixed procedures tend to reduce the potency of the demands coming from an insatiable personality. Generally speaking, the self-concerned or personal behaviors of the teacher tend to carry a load of affect.

I never watch TV quiz shows, they are a waste of time.

Did you learn anything today, class? (bid for reassurance)

I don't know if I care to go over more of these questions--
I don't know if its worth the trouble. (self-pity)

That's a silly error.

A class can drive a teacher crazy.

Captain Ahab would make a fine cheerleader.

I don't know how to explain what I mean. (defensive)

2 - Generalized - Adult

The frame of reference here is primarily that of an adult concerned with conditioning the child to accept the value-system of the general community or that group with which he personally identifies. The comments have a quality of indoctrination, and very generally sound like clichés or platitudes. The values involved are such things as the "importance" of education, the proper "respect" to be shown the teacher, the virtues of punctuality, hard work, concentration, tolerance, etc.--all left floating in the air and not operationally connected to on-going classroom activity. They are sentiments rather than policies or criteria for performance.

Examples:

Unless you want to be dumb you have to study.

Dope addicts are not to be cast off as worthless.

You can't get anything out of reading unless you learn to concentrate; concentration is vital and requires effort; learn to concentrate.

Nobody likes to work hard, but someday you'll thank me for making you.

Going to a basketball game won't get you into college; doing algebra possibly will.

4. Emotionality

This is judged from the affect one hears in the statement. This affect engenders emotional response in the observer. Only statements arousing feeling in the observer can be rated as having emotionality. More than one quality of affect may be attributed to the statement; if the particular affect cannot be categorized with the code given below, then the symbol A (unidentifiable affect) is used. The categories for coding are:

a. Fight

F - Any fight statement addressed to the class or an individual student with the intent to punish or threaten the class. They affect the climate.

D - Any defensive statement by the teacher which has the quality of weakly lashing out at the class or defending himself from real or fancied attack. These statements might be directed at one kid, but ordinarily (if not always) will be directed at the class.

Examples:

Jack be quiet. We've had enough from you.

You are from a good middle class family and read the Tribune; and you don't know who Taft was?--(tempered hostility)

Next time your homework better be good! (to class--threat, direct)

Come on, you people know--lets have more people talking, not just four of us. (onjeling)

Examples: Q Statements

I don't know if I care to go over these questions--I don't know if its worth it.--(hurt feelings, intro-punitive, guilt-provoking, but also weak)

Nobody likes to work hard--somebody you'll thank me--(defensive)

Such drill is necessary for acquiring basic communication skills demanded in our society. Unless you want to be dumb, you have to study. (defensive, conditionally hostile)

I don't care what your other teacher says, spelling comes before extra-curric. activities. (defensive justification plus hostility at other teacher and his supporters)

b. Resignancy

S - Submissive. Direct appeal to stronger person, giving up one's own self-determination. (I just want to do what you want me to do)

W - Weak, Inadequate. (I am weak and untitled and want your support, not necessarily your direction; also, I am weak and untitled)

R - Relay. (We give up our self-direction and power to choose because some extraneous authority must be obeyed.)

Examples: H statements

If it fails, we'll all hold our heads in shame--

A class can drive a teacher crazy--

Did you learn anything? (seeking reassurance)

I don't know how to explain what I mean-- (seeking sympathy)

I can't agree with that, but what do some of you others think? (seeking support, fearful of taking stand)

Examples: S statements

What do you want me to do?

Professor Smith says this is the best way to do it.

Examples: A statements

Lets draw our lines in diagramming in exactly the same way they are in the text--(unquestioned acceptance of "outside", apparently arbitrary authority)

I don't know what extraneous means, but an extraneous root is defined as...

You voted for more drill on sentences.

It is expected that we as a class learn this material at this time.

Read the question from the sheet and then give your answers--(this depends on how arbitrary the instruction is, that is, on how far it feels like a reasonable obvious thing to do)

c. Flights

I - irrelevant, off the point, out of field, free association, etc.

E - escape, in the sense of attention reduction, change of subject, humor

B - breakdown, repetitious, incoherent, rambling, intellectualizing. Indicates a disorganization under stress. Fighting to gain time, etc.

Examples: I statements (irrelevant):

TV heroes never die...what happened to Kookie (free association)

Examples: E statements (escape)

Quis shows in this room will not be rigged. (presumably a response to a legitimate concern or tension)

Examples: R statements (breakdown)

Long rambling illustration from a story, ending lamely with the point that "Don't look for greener pastures and let the present slip by" (which is also disorganized as a metaphor)

d. Pairing

P - Personal--agreement, support, warmth expressed to person

G - Group--agreement, support, warmth expressed to group

Examples: P statements (personal)

Yes, this is a universal theme...noncommittal (ego-building to student) P

Think you will have any cookies left after lunch? (tempered with some hostility?) P

That's an easy mistake to make---P

Very good, that's excellent, Carol---P

I would like to hear more of your good ideas, Jack-- you think so clearly---P

Examples: G statements (Group)

Now we are really getting some place. That's good. G

This is a very pleasant class to work with. G

Let's try for the jackpot G

These are really very good ideas we have on the board. G

e. Unidentifiable affect: A or a

f. Usefulness of humor: ++, +, -, --

Appendix E - Transcripts Categorized by Observation

Schedule #1

Teacher #1

	Topic of Discussion	Level of Concern	Frame of Reference	Emotionality
T In fact, now that I think of it, didn't he say this on the program?	I	D	P	
Let them do whatever they want to in Europe and Asia. We just want to lookout for ourselves.	I	D	P	
Why is this a silly, stupid point of view? Steve.	I	R	G	a
T Do we need trade? Can't..... can't we just get along by ourselves	I	R	P	
T Well lets say, Steve, that we have everything...Right? Sell your stuff.	I	R	P	
We can't possibly keep being prosperous unless we build up overseas markets.	I	R	P	
This is an economic fact.	I	D	P	
You should have learned this from your geography in 6th and 7th grades.	I	D	T	
To be a prosperous country, more has to go out than comes in. You have to sell the surplus.	I	D	T	
Just like if you were a farmer and had a family and lived on a farm, would you make any money and be getting ahead in the world if you just raised what your family needed? Maybe you wouldn't have to go to town to buy anything from the store, but unless you had a cash crop				

	Topic of Discussion	Level of Concern	Frame of Reference	Emotionality
which you could sell, you couldn't, unless you could make, for example, your own automobile and your own records and that sort of thing. You wouldn't have many of the nice things in life.	I	R	P	
T (laugh) Well you can barter for a lot of things, but the point is that you always have something left over to sell. This is how you make money.	I	D	T	
	I	R	P	
T That's true. Mike!	I	D	T	P
T Yes.				
T That man! That ridiculous man, polishing his ridiculous car, saying they can do anything they want to over there, but we're going to look out for ourselves.	I	S	G	a
Well how long is it going to take that intercontinental B.M. to get here, if it's set off?	I	R	P	
T 15 minutes! Steve.	I	D	T	
T Drop the bomb?	I	D	T	
Well I think everybody in here is bright enough to realize that wouldn't solve any problem at all.	I	S	P	1
T Well he was doing it with such reverence too. You could just see that this was what he worshipped-a big powerful car.	I	D	G	
T I don't know that. It doesn't matter.	I	S	T	

	Topic of Discussion	Level of Concern	Frame of Reference	Emotion- ality
The point was that his job, working with this steel god, (laugh), the great big car.	I	S	G	
T It probably meant that too.	I	D	T	P
It probably meant that too, that he couldn't think a little better-perhaps, that if he had a better education.	I	S	P	
You see a better education would have told him that things just don't stay the same.	I	S	G	
He should have been able to Have seen the writing on the wall that might tell that we are on the downgrade.... that many people can tell today.	I I	S S	T G	

Teacher #2

	Topic of Discussion	Level of Concern	Frame of Reference	Emotionality
T Just like saying, Jack Lindstrom-we'd put Jack and Lindstrom on the same line. Wouldn't we?	I	D	T	p
T A noun clause?	I	D	T	
Not all the time, no!	I	D	T	
T No!	I	D	T	a
T No more than there is any set word that you start a sentence with.	I	D	T	
T Nancy				
T I marked it incorrect.	I	D	T	
T For two reasons-for two reasons	I	D	G	d
The first reason because you were told to write me a noun clause using a predicate nominative, I believe, and that wasn't...	I	D	T	r
Second reason. You were told not to give me back examples that I had given you.	I	D	T	r
See you used it as an object of a preposition in that sentence.	I	D	T	
All right, any others?	I	D	T	
If you would draw the drape over there you wouldn't have the glare in your eyes.	P	S	T	
T You people don't think f yourselves, huh?	G	I	G	
T Barbara				

	Topic of Discussion	Level of Concern	Frame of Reference	Emotionality
T	No, because we won't say all of them are(were) adjective.	I	D	T
	A non-restrictive clause is an adjective clause. Isn't it?	I	D	T
	Weren't you-When you are talking about a non-restrictive clause and a restrictive clause you are talking about an adjective clause.	I	D	T
	If you remember reading in that- in the English book back there on your parenthetical expressions, it classified a parenthetical expression as neither.	I	D	T
	It didn't classify it as an adjective or an adverb. Did it?	I	D	T
T	Yes.			
T	No!			
T	You are trying to complicate matters again.	P	I	T
	but they are not because a restrictive or non-restrictive clause must be adjective and adjective only.	I	D	T
T	They are a part of your sentence.	I	D	T
	A restrictive clause is an important part of that sentence, a parenthetical expression is not.	I	D	T
T	All right, a nonrestrictive clause?	I	D	T
	Now you diagram it as a part of that sentence-do you not?	I	D	T
	Whereas if you remember diagrams of parenthetical expression in the book, they were diagrammed as being separate entirely from the sentence.... weren't they?	I	D	T
T	A restrictive clause is not set off by comma.	I	D	T

Appendix F: Observation Schedule #2

Observers equipped with seating charts employed the following shorthand symbols to record every perceived instance of teacher questions and student work and non-work behavior during a class hour.

On each occasion when the teacher asked a question, a number 1, 2, 3,.....etc. was recorded in a special cell on the seating chart assigned to the teacher. A reply by a student was given the same number as the question to which he replied.

On each occasion when the student is observed to:

A symbol is entered in the cell assigned to the student on the seating chart.

Work behaviors

raise hand.....	1			
volunteer answer.....	1,2,3,..etc.	(with number coinciding with teacher question number)		
conscripted answer.....	1 ₀ ,2 ₀ ,..etc.	" "	"	
impulsive (spoken-out) answer.....	1 _u ,2 _u ,..etc.	" "	"	
Lesson participation-apart from questions asked by teacher.....	I,I,..etc.			
questions asked by student..	I _q ,I _q ,..etc.			
comments made by students...	I _c ,I _c ,..etc.			

Non-work behaviors

private play.....	P,P,..etc.			
study, not related to class.....	S,S,..etc.			
disturb other students.....	D,D,..etc.			
blow off to class-loud, impulsive remark.....	B,B,..etc.			
receive a reprimand from the teacher.....	R,R,..etc.			
whisper with his neighbor.....	———	(line linking cells on seating chart with arrow point indicating recipient of whisper.)		

Appendix G: Post Meeting Reaction Opinionnaire

OPINIONNAIRE

Teacher _____ Period _____ Date _____ Name or Code _____

1. How did you feel this class meeting was today?

no good poor all right good excellent

2. How often did you find yourself wanting to say things to the class, but for one reason or another you did not actually say them?

never a few times fairly often frequently very frequently

3. How worthwhile to you was what you learned in class today?

Worthless; rather pointless now quite useful highly meaningful,
waste of time possibly useful someday and interesting most worthwhile

4. How often were the questions and comments of the students really understood and replied to fairly and helpfully?

never a few times fairly often frequently very frequently

5. How clearly did you understand exactly what the class was supposed to do today?

not at all vaguely pretty well perfectly

6. How difficult was the lesson today?

too simple; fairly easy rather hard very difficult
baby stuff over my head

7. What part of the class was really working on the lesson today?

almost nobody a few students most of the class everybody

8. How satisfied were you with the part you played in class today?

really disappointed rather fairly well really delighted
or discouraged disappointed satisfied and pleased

9. Toward how many students did you feel uncomfortable today? Give number _____

10. Whose actions and behavior concerned you most in class today? Check one.

Yours _____ Teacher's _____ A few others' _____ Whole class' _____

Appendix H: Student Opinion Survey

Age _____ **School** _____

STUDENT OPINION SURVEY

Students differ in feelings about the classes they are taking in school. We would like to know how you feel about the classes that you have.

Begin by listing all the classes you are taking by writing the specific subject name under the general heading that is provided below. The letter symbol that is underlined will be used to represent the subject throughout the remainder of the questionnaire. For instance, if you are taking American Literature you would write the course title "American Literature" under the general heading English, and this course would be represented by the letter E. At this point fill in the names of all the courses you are now taking in the appropriate spaces below.

English

SS Social Studies

The Mathematics

Foreign Language

PE Physical Education

Be Science

8 Business Courses

Its Music

H Home Economics

I Industrial Courses (shops)

A AFB

☐ Other

The next thing to do is for you to write the specific course names and the letter symbols, underlined above, in the spaces provided at the top of the next page. Do this and then return to the remainder of the instructions on this page.

From here on the task is for you to rate all of your classes on the list of items on the next page. Read each statement carefully. Then place the letter symbol for each course in the space on the scale that best represents your opinion about this course. For instance, a student taking E American Literature, SS World History, PE Physical Education, Ma Algebra, and Sc Biology rated these courses on the following statement in this manner:

"To what extent do each of your classes consist of students whom you admire?"

• 10 • 50 • • FE • • E • • 88 •
not completely
at all

Notice that this student placed the letters SS at the extreme right of the scale. This indicates that he admires all the students in his World History class. The letters Mm are placed on the extreme left of the scale indicating that there are no students in Algebra that he admires. In his opinion the other courses fall between these extremes and are rated accordingly. This student spaced his ratings over the entire length of the scale. However, another student might have placed his ratings all on the left end of the scale, while still another student would want to use only the right end. From this you can see that you should feel free to use that part of the scale that best represents your opinion about the statement. Finally, as in the example, you are to use the spaces provided between the points on the scale. Please do not place any ratings above the points themselves.

Remember you are to rate all of your classes on an item before you proceed to the next item.

~~Symbol~~ Course Title

~~Symbol~~ Course Title

1. In general, how meaningful and rewarding is each of your classes?

_____ completely
not at all

2. To what extent does each class make use of subject materials of the sort you would like to study or work with next year?

_____ completely
not at all

3. To what extent does each of your classes deal with things that are interesting to talk about outside of class?

_____ most of the time
hardly ever

4. To what extent is each of your classes a group of students you would like to work with again next year?

_____ completely
not at all

5. To what extent are you willing to do the work required in each of your classes?

_____ completely
not at all

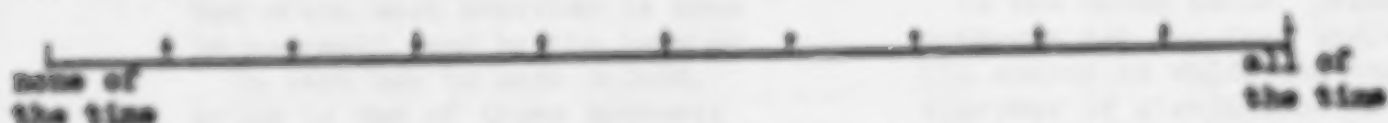
6. To what extent does each class further your plans for things you want to do after you leave high school?

_____ completely
not at all

7. In what ways have each of these classes opened new interests or things for you to do?

_____ lots of ways
no ways at all

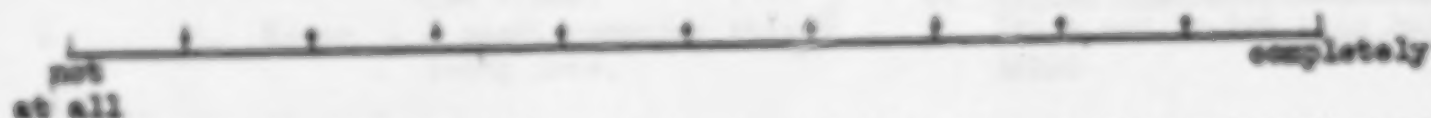
8. What per cent of the time in each class is spent on activities which personally you enjoy?



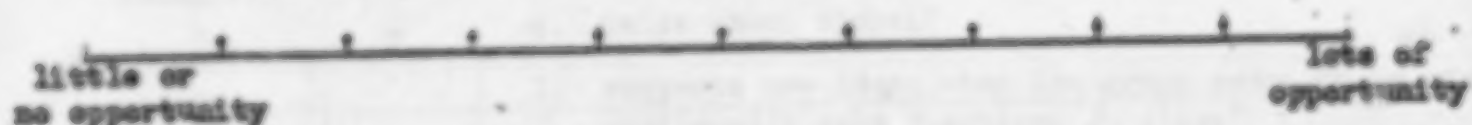
9. To what extent does each class have a teacher with whom you would like to work again next year?



10. To what extent do you look forward to going to each of these classes?



11. To what extent have each of the classes given you opportunity to practice or try out some special skill or talent which you have?



Appendix I: Guess Who

I How often is each behavior done by you, and by the teacher?

In the columns below, indicate how often each behavior is done by yourself, and by the teacher.

In each box in each column, write in one of these numbers:

1. Always - seems to happen every day.
2. Usually - this is done nearly every day.
3. Occasionally - occurs once every week or two.
4. Rarely - this has been done a few times.
5. Never - I can't remember this being done.

II To what extent do you think that the teacher approves of these behaviors?

In the boxes below, place the number which you feel indicates the extent to which the teacher approves or disapproves of these behaviors or actions.

1. Is really glad when a student does this.
2. Shows approval when this is done.
3. Neither approves nor disapproves of this behavior.
4. Rarely tolerates this behavior.
5. Tries not to let this happen again.

I do it	Teacher does it	WHO...	
Examples			
1	4	a. talks about himself	4
		1. suggests new ideas when the group seems to be stuck?	
		2. continually asks questions in class?	
		3. talks the most?	
		4. usually comes up with the answers?	
		5. does not pay attention in class?	
		6. brings in a lot of extra work that he or she has done on things relating to this class?	
		7. usually thinks his or her idea is best?	
		8. gets things done when most of the class is confused?	
		9. *never breaks the rules?	
		10. offers compromises, when there are several sides being taken on a topic?	
		11. usually criticizes and blames other peoples' actions or ideas?	
		12. disrupts the work of the class by clowning and fooling around?	
		13. *goes along with the class, and just accepts the ideas of others?	
		14. worries about how well he or she is doing?	
		15. sympathizes with others when this is needed most?	
		16. usually talks out of turn?	
		17. seems to get upset when unable to answer questions?	
		18. presents ideas which influence the class?	

*dropped from analysis as subjects were confused by item wording.

Appendix J: Sociometric Questionnaire

We choose to be with different people for a variety of purposes. We may seek one person to work with and another person with whom to just chat about personal experiences and interests.

Consider each of your classmates and teacher and how you feel about them. On the following pages you are asked to choose which ones you would prefer to work with, and which ones you would prefer to sit and chat with.

1. If you could choose to work with only one person, who would you choose?
2. If you could choose to chat with only one person, who would you choose?
3. If you could choose to work with only two people, who would you choose?
4. If you could choose to chat with only two people, who would you choose?
5. If you could choose to work with only three people, who would you choose?

Robert Kennedy _____

John F. Kennedy _____

Mr. Kennedy _____

Mr. Chavarras _____

John DeLoach _____

William F. Buckley _____

James H. Duesenberg _____

William F. Buckley _____

Richard Goodwin _____

John King _____

John Edgar Hoover _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

James H. Duesenberg _____

Name _____

Period _____

School _____

"Work"

Instructions:

Whom would you choose to work with? Opposite each person's name,
enter a

1. if you really would be very pleased to work with this person.
2. if you would like to work with this person.
3. if you would be willing to work with this person.
4. if you don't know how you feel about working with this person.
5. if you would rather not work with this person.

Robert Blumberg _____

Clifford Brickman _____

Mr. Brunner _____

Joe Cheesebrough _____

Anne Collins _____

Richard Engberg _____

Ronald Fagorske _____

Michael Graham _____

Kathrine Kaestner _____

John King _____

Ruth Mosner _____

Susan Mulrine _____

Bruce Nahrath _____

Donna Olsen _____

Sandra Peck _____

Diane Rosenberg _____

James Schaefer _____

Mark Stein _____

Charles Theune _____

Richard Weisel _____

Name _____

Period _____

School _____

"Chat With"

Instructions:

Whom would you choose to sit and chat with? Opposite each person's name enter a

1. if you really would be very pleased to sit and chat with this person.
2. if you would like to chat with this person.
3. if you would be willing to chat with this person.
4. if you don't know how you feel about this person.
5. if you would rather not chat with this person.

Robert Blumberg	_____
Clifford Brickman	_____
Mr. Brunner	_____
Joe Cheesebrough	_____
Anne Collins	_____
Richard Engberg	_____
Ronald Fagorske	_____
Michael Graham	_____
Kathrine Kaestner	_____
John King	_____
Ruth Mosner	_____
Susan Mulrine	_____
Bruce Nahrath	_____
Donna Olsen	_____
Sandra Peck	_____
Diane Rosenberg	_____
James Schaefer	_____
Mark Stein	_____
Charles Theune	_____
Richard Weisel	_____

Table K: Observation Schedule 21, Teacher 21

Appendix K: Tables to Accompany Chapter 6

Observed Category	Number of statements Score		Rating using 15 Critical Incident Technique	
	Control	Uncontrolled	Control	Uncontrolled
1. Statements by Teacher	80	85	4	4
2. Statements by Students	125	135	3	3
Attributed to:				
3. Teacher	120	130	3	3
4. Class	115	125	4	4
5. Particular Student	4	10	2	2
"Typical" "Unusual"				
6. Instructional	105	110	3	3
7. Group Function	10	15	0	0
8. Activity	10	15	0	0
9. Personal	15	20	0	0
Class				
10. Instructional	100	105	0	0
11. Instructional	10	15	0	0
12. Instructional	105	110	0	0
13. Instructional	10	15	0	0
Form of Instruction				
14. Instructional	105	110	0	0
15. Instructional	105	110	0	0
16. Uncontrolled Adult	10	15	0	0
17. Self-awareness	10	15	0	0
Eventuality	Number of Incidents per class period			
Defensive	0	0	0	0
18. Flight: Teacher	3	0	0	0
19. Threatening	1	0	0	0
Submissive	0	0	0	0
20. Dependence: Adult	0	0	0	0
Peer	0	0	0	0
21. Flight: Response	0	0	0	0
22. Escape	0	0	0	0
23. Irrationality	0	0	0	0
24. Pairing: Person	3	3	0	0
25. Group	0	1	0	0
26. Unidentified Affect	1	0	0	0
27. Emotion: Facilitative	0	0	0	0
28. Disruptive	0	0	0	0

Table 40 Observation Schedule #1, Teacher #13

Observed Category	Percent of Total Numbers of Statements Means		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Statements by Teacher	88%	87%	A	A
2. Statements by Students	12%	13%	E	E
Addressed to:				
3. Teacher	10%	13%	E	D
4. Class	83%	84%	A	A
5. Particular Student	6%	3%	E	E
Topic, "Content"				
6. Ideational	96%	88%	B	C
7. Group Operation	1%	4%	C	C
8. Activity	2%	8%	D	C
9. Personal	1%	0%	C	D
Form:				
10. Descriptive	78%	78%	C	C
11. Subjective	1%	2%	C	C
12. Relationship	19%	20%	B	B
13. Impulsive	2%	0%	B	C
Frame of Reference				
14. Technical	81%	71%	D	E
15. Professional	19%	29%	B	A
16. Generalized Adult	0%	0%	C	C
17. Self-Concern	0%	0%	C	C
Emotionality	Number of Incidents per class period			
Defensive	0	0	C	C
18. Fight: Teacher	3	0	C	D
19. Threatening	1	0	C	D
Submissive	0	0	C	C
20. Dependency: Rules	0	0	C	C
Weak	0	0	C	C
21. Flight: Breakdown	0	0	C	C
22. Escape	0	0	C	C
23. Irrelevancy	0	0	C	C
24. Pairing: Person	3	3	D	D
25. Group	0	1	C	C
26. Unidentified Affect	1	0	C	C
27. Humor: Facilitative	2	2	B	B
28. Disruptive	0	0	C	C

Table 41 Observation Schedule #2, Teacher #13

Observed Category	Number of Observed Instances Per Class Period		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Teacher Questions	29	44	C	B
2. Conscripted Answers	10	20	C	B
3. Raise Hands	46	61	B	B
4. Volunteer Answers	17	23	B	B
5. Speak out answer	8	2	B	C
6. Student Comments	1	1	D	D
7. Student Questions	17	5	B	D
8. Lesson Participation	6	5	B	B
9. Study for other class	2	1	C	C
10. Whisper	50	13	B	D
11. Private Play	4	1	D	E
12. Disturb others	1	0	C	D
13. Blow off (violent, imp.)	3	1	B	C

Table 42 Post Meeting Reactions Teacher #13

	Percent of days satisfaction is higher in		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. How did you feel this class meeting was today?	17%	83%	A	A
2. How often did you find yourself wanting to say things to the class--but didn't?	0%	100%	D	A
3. How worthwhile to you was what you learned in class?	11%	89%	B	A
4. How often were questions and comments of students really understood and replied to fairly and helpfully?	0%	100%	A	A
5. How clearly did you understand exactly what the class was supposed to do today?	33%	67%	E	C
6. How difficult was the lesson?	18%	82%	A	A
7. What part of the class was really working on the lesson?	25%	75%	C	B
8. How satisfied were you with the part you played in class?	17%	83%	C	F

Table 43 Student Opinion Survey Teacher #13

Criteria:	<u>Mean Ratings</u> 10-extreme satisfact 1-extreme dissatisfact		<u>Ranking Among</u> 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
To what extent				
1. is each class meaningful and rewarding?	8.0	8.1	B	A
2. does each class make use of subject materials of the sort you would like to study and work with next year?	8.0	7.8	A	A
3. does each class deal with things that are interesting to talk about outside of class?	7.0	6.3	B	C
4. is each of your classes a group of students you would like to work with again next year?	7.8	8.1	B	B
5. are you willing to do the work required in each of your classes?	8.0	7.8	B	B
6. does each class further your plans for things you want to do after leaving high school	7.3	8.2	B	A
7. has each class opened new interests or things for you to do?	7.2	7.6	B	B
8. is the time of each class spent on activities which you enjoy?	6.7	7.2	B	B
9. does each class have a teacher with whom you would like to work again next year?	8.7	9.7	B	A
10. do you look forward to going to each of these classes?	7.4	7.1	B	B
11. has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	8.0	6.6	A	C

Table 44 Guess Who Teacher #13

Behavior	Teacher Frequency 1-always; 5-never		Student Frequency 1-always; 5-never		Teacher Approval 1-really glad 5-wish to prevent							
	Means	Quintiles	Means	Quintiles	Means	Quintiles						
	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.						
1. suggests new ideas when the group seems to be stuck.	1.4	1.6	B	C	3.4	3.3	C	C	1.2	1.1	C	B
2. continually asks questions in class	2.2	2.2	C	C	3.0	3.3	B	C	2.0	2.0	C	C
3. talks the most	1.3	1.5	B	B	3.4	3.0	D	C	3.4	3.3	C	B
4. usually comes up with answers	1.6	1.7	B	B	2.8	3.0	C	C	1.4	1.4	C	C
5. does not pay attention in class	4.4	4.7	C	C	3.1	3.3	C	C	4.4	4.3	C	C
6. brings in a lot of extra work on things relating to this class	2.9	2.7	C	C	4.4	4.4	D	D	1.4	1.4	C	C
7. usually thinks his or her idea is best	2.3	3.0	C	E	3.5	3.9	C	D	2.9	3.0	C	C
8. gets things done when most of the class is confused.	1.4	1.3	C	C	3.0	3.2	C	C	1.4	1.3	B	B
10. offers compromises when there are several sides being taken on topic.	1.8	1.3	C	B	3.2	3.6	C	D	1.8	2.1	C	C
11. usually criticizes and blames other peoples' actions or ideas.	3.5	4.2	C	E	4.0	4.0	C	C	3.6	4.1	C	D
12. disrupts the work of the class by clowning and fooling around.	4.8	4.8	D	D	3.5	3.9	B	C	4.7	4.5	C	C
14. worries about how well he is doing.	3.0	2.7	C	C	2.1	2.3	C	C	2.2	2.4	C	C
15. sympathizes with others when this is needed most.	2.0	2.4	B	C	2.0	2.8	A	C	2.1	2.7	B	C
16. usually talks out of turn	4.3	4.6	C	D	3.4	3.5	C	C	4.1	4.1	C	C
17. seems to get upset when unable to answer questions.	4.4	4.7	C	D	3.2	3.6	B	C	3.4	3.3	C	C
18. presents ideas which influence the class	1.2	1.3	A	B	3.2	3.2	C	C	1.5	1.4	C	B

Table 45 Sociometric Ratings Teacher #13

<u>Choice</u>	Mean Ratings: 1-strong liking 5-strong rejection		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Teacher: work with Students	2.65	1.26	E	A
2. Teacher: chat with Students	2.05	1.52	C	A
3. Students: work with Students	2.46	2.57	A	B
4. Students: chat with Students	2.51	2.47	A	A
5. Students: work with Teacher	1.35	1.58	B	C
6. Students: chat with Teacher	1.60	1.74	B	C

Situations

31. When I wanted to work with Frank, I ... (Work)
A. felt we could do well together. (Pairing)
(Depend.) B. asked if it would be all right with him.
39. When the leaders lost interest, Mort... (Flight)
(Work) A. suggested a way to get everybody working.
B. started talking with his neighbors. (Flight)
43. When the group wasn't interested, I... (Flight)
A. just didn't feel like working. (Flight)
(Depend) B. thought that the leader should do something about it.
51. When I felt angry enough to boil, I...(Fight)
A. wanted to throw something. (Fight)
(Depend.) B. wished that the leader would do something about it.
56. When no one was sticking to the point. I...(Flight)
A. got bored with the whole thing. (Flight)
(Work) B. called for clarification of the topic.
60. When Dave and Lou argued, I...(Fight)
(Pairing) A. asked Hank how he felt about them.
B. hoped they would slug it out. (Fight)
63. When Stan told me he felt uncertain about what should be done, I...(Depend)
A. suggested that he wait awhile before making any decisions. (Flight)
(Work) B. suggested that he get more information.
65. When the group suggested a procedure, I...(Work)
(Depend) A. thought the teacher ought to express his approval or disapproval of it.
B. thought we ought to decide whether to carry it out. (Work)
68. During the argument, Roy's opposition caused Earl to...(Fight)
A. withdraw from the discussion. (Flight)
(Depend.) B. look to the teacher for support.
76. When Hal felt hostile to the group, he...(Fight)
(Flight) A. wished he would not have to come to the meeting.
B. was glad that Bob felt the same way. (Pairing)
78. When I lost track of what Paul was saying, I...(Flight)
(Depend) A. asked the teacher to explain Paul's idea to me.
B. was pleased that it was Mike who explained Paul's idea to me. (Pairing)

Table 46 S Students. Positive Responses. Teacher #13

Classroom Activities

- | | | |
|----|-----|--|
| TD | 9. | Have teacher assign exercises for practice. (4) |
| TD | 11. | Get individual help and instruction from the teacher while doing class work. (5) |
| TD | 16. | Have teacher lead a discussion in which basic principles are explained. (4) |
| SG | 20. | Organize a group activity with a few other students. (4) |
| A | 21. | Explain a homework problem to the class. (4) |
| TD | 23. | Have a conference with the teacher concerning your progress in class. (5) |
| A | 24. | Perform a demonstration or experiment for the class. (4) |
| TD | 28. | Listen to the teacher explain or demonstrate a lesson. (4) |
| SG | 30. | Work with other students in designing and completing a project. (4) |
| SG | 34. | Go to the library with your committee to do research. (5) |

Participation

- | | | | |
|--------------|-----|-----|---|
| ___Threat Cl | (L) | 51. | Hearing another student make a spur-of-the moment speech about himself to the class. (4) |
| ___Threat Co | (L) | 54. | Listening to other members of a student committee talking about the anxieties and pleasures they experience in the committee. (4) |
| ___Role Fr | (L) | 58. | Having one of your friends give advice to the whole gang. (2) |
| ___Role A | (T) | 59. | Thinking about an argument you might have used to persuade others. (4) |
| ___Neut IP | (T) | 67. | Telling a visiting student from another school about the program of courses taught in your school. (5) |
| ___Neut Cl | (L) | 72. | Listening to other students giving carefully prepared and detailed reports to the class. (4) |
| ___Threat IP | (L) | 90. | Hearing the private experience of another student. (4) |

Teacher Descriptions

- | | |
|------|---|
| 116. | The "Buddy" teacher best fits impression of teacher from whom one learns most. (1) |
| 117. | The "professional-traditional" teacher best fits impression of teacher from whom one learns most. (1) |

Who Should Decide?

- | | | |
|-------|-----|---|
| T | 5. | How worth while was your contribution to the class discussion. |
| T | 15. | Whether the committee you were on did a good job or not. |
| Y & T | 16. | Whether it is a good idea to see the school counselor about a personal problem. |
| Y & T | 17. | What type of project you will work on next. |
| T | 20. | Who you should sit next to in class. |
| Class | 24. | Whether it is alright to ask a question to end someone's boring report. |

Ways of Doing Things

- | | | |
|-----|------|--|
| T-O | 92. | When talking with a teacher I lose the thread of conversation. (D) |
| G-S | 97. | When doing things with a few other students I become upset easily. (D) |
| G-O | 100. | When doing things with a few other students I get into trouble. (E) |
| C-S | 102. | When doing things as a member of the class I become upset easily. (D) |
| G-O | 116. | When doing things with a few other students I have difficulty talking. (D) |
| A-W | 127. | When doing things by myself I get confused in my work. (D) |
| T-W | 133. | When doing something with a teacher I waste time. (D) |

Values

- | | | |
|----|-----|--|
| V2 | 17. | Have confidence in my personal strength and ability to do things on my own. (9) |
| V4 | 19. | Live a life of service to others. (8) |
| V5 | 20. | Relax and enjoy every possible moment. (9) |
| V4 | 21. | Live a life in which the interests of others are put ahead of my own. (7) |
| V2 | 22. | Do things actively and with enthusiasm. (8) |
| V1 | 24. | Use the wisdom of the past in order to make a better future. (9) |
| V2 | 31. | Plunge courageously into the challenges of life. (9) |
| V4 | 35. | Be grateful and undemanding in my acceptance of life experiences. (6) |
| V1 | 42. | Live a well-organized and productive life. (9) |
| V4 | 43. | Be willing to make sacrifices for the welfare of others. (8) |
| V1 | 44. | Realize that attaining future goals is more important than present pleasure. (8) |
| V1 | 47. | Try always to act in a socially acceptable manner. (8) |
| V1 | 2. | Live a refined and well-mannered life. (9) |
| V1 | 8. | Live a moral life of high ideals. (9) |
| V3 | 9. | Live a quiet, unassuming life that allows time for thought and meditation. (9) |
| V2 | 15. | "Go it alone," for the most part and not be dependent on others. (8) |
| V1 | 22. | Be thrifty and plan for tomorrow. (5) |

Words Words Words

Being popular is

Ri.	somewhat more <u>tight</u> than loose	(3)
Po.	somewhat more <u>strong</u> than weak	(4)
Ac.	somewhat more <u>fat</u> than thin	(4)
Ev.	<u>good</u> rather than bad	(1)

Girl is

Se.	more <u>safe</u> than dangerous	(2)
Ac.	more <u>fat</u> than thin	(4)
Ri.	more <u>wet</u> than dry	(5)
Po.	more <u>little</u> than big	(2)

Being comfortable is

Ac.	more <u>new</u> than old	(4)
Ri.	more <u>wet</u> than dry	(5)
Po.	more <u>little</u> than big	(3)

Having power is

Ri.	<u>tight</u> rather than loose	(1)
-----	--------------------------------	-----

Boy is

Ri.	more <u>tight</u> than loose	(2)
Po.	more <u>strong</u> than weak	(5)
Ri.	more <u>wet</u> than dry.	(4)

Work is

Se.	more <u>dangerous</u> than safe	(4)
-----	---------------------------------	-----

Myself is

Ac.	<u>thin</u> rather than fat	(1)
Ev.	more <u>good</u> than bad	(2)

Table 47 S Students. Negative Responses. Teacher #13

Classroom Activities

- | | | |
|----|-----|--|
| TD | 19. | Discuss with the teacher possible activities you could do. (2) |
| SG | 25. | Discuss class material with a group of other students. (2) |
| CW | 29. | Participate in a class drill on fundamentals. (2) |
| TD | 31. | Have teacher "crack down" on class order and discipline. (2) |
| CW | 39. | Have teacher make it clear what is expected of the class. (2) |
| SG | 40. | Evaluate the quality of committee work with other group members. (2) |
| A | 14. | Grade or evaluate your own performance in an activity. (2) |
| CW | 7. | Go on a field trip. (2) |

Participation

- | | | | |
|--------|--------|-----|---|
| Mu | A (T) | 48. | Reading a book and deciding what the author is really trying to say to you. (2) |
| Eval | Cl (T) | 50. | Pointing out good ideas and attacking bad ideas offered during class discussion. (2) |
| Threat | A (L) | 57. | Reading a story in which the author describes the innermost private feelings of the characters. (2) |
| Neut | Co (L) | 60. | Listening to another member of a student committee to which you belong explain about parliamentary rules. (2) |
| Eval | Fr (T) | 63. | Telling a group of friends what is good or bad about their ideas and behaviors. (2) |
| Threat | IP (T) | 64. | Telling another student your secret thoughts and hopes. (2) |
| Role | Cl (T) | 66. | Keeping class discussion on the beam by bringing the others back to the problem. (3) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. (3) |
| Neut | A (T) | 91. | Sitting by yourself quietly thinking about things that interest or puzzle you. (2) |
| Eval | Co (T) | 92. | Pointing out to a student committee in what its members are being helpful or making trouble. (2) |

Teacher Descriptions

120. The "rules conformity" teacher is out of line with S expectations for comfort. (4)

Ways of Doing Things

- | | | |
|-----|------|--|
| G-O | 126. | When discussing things in a <u>class</u> I have difficulty talking to others. (C) |
| C-W | 130. | When doing things as a member of a <u>class</u> I learn very little for my work efforts. (C) |

Table 47 S Students. Negative Responses. Teacher #13
(Continued)

Values

- | | | | |
|----|-----|--|-----|
| V3 | 27. | Have time to think about the deep issues of my personal life. | |
| V3 | 34. | Be aware of and understand my innermost thoughts. | (7) |
| V3 | 38. | Develop understanding of others through self-awareness. | (8) |
| V2 | 48. | Be able to do things that are new and interesting even if they are risky. | (5) |
| V3 | 49. | Realize that though the world is disappointing I can find happiness in me. | (4) |
| V5 | 7. | Fully experience present pleasure and not worry about the past or future. | (1) |

Table 48 U Students. Negative Responses. Teacher #13

Classroom Activities

- SG 36. Study basic course content as a member of a small group of students.

Participation

- Role Fr (L) 58. Having one of your friends give advice to the whole gang. (1)
Role A (L) 65. Thinking about all the things you have to do today. (1)
Neut Cl (L) 72. Listening to other students giving carefully prepared and detailed reports to the class. (2)

Teacher Descriptions

113. "Planning" type teacher contradictory to U expectation for learning. (5)

Ways of Doing Things

- G-I 91. When doing things in a class I forget ideas that have been explained previously. (B)
A-I 119. When doing things by myself I have difficulty understanding ideas. (C)

Values

- V4 19. Live a life of service to others. (4)
V1 24. Use the wisdom of the past in order to make a better future. (6)
V2 30. Live an adventuresome, daring life. (6)
V2 31. Plunge courageously into the challenges of life. (4)
V4 35. Be grateful and undemanding in my acceptance of life experiences. (4)
V1 47. Try always to act in a socially acceptable manner. (2)
V1 2. Live a refined and well-mannered life. (4)
V5 21. Free myself from the burdens of care and worry and simply enjoy life. (1)
V1 22. Be thrifty and plan for tomorrow. (3)

Table 49 U Students. Positive Responses. Teacher #13

Classroom Activities

CW 29. Participate in a class drill on fundamentals. (4)

Participation

Eval Fr (T) 63. Telling a group of friends what is good or bad about their ideas and behaviors. (3)
 Eval Cl (L) 87. Having the class give opinions about the quality of their own discussion. (4)

Who Should Decide

T 2. Whether and under what conditions you will work alone.
 Class 5. How worthwhile was your contribution to the class discussion.
 T 10. How good a job the teacher did today.
 Comm 15. Whether the committee you were on did a good job or not.

Ways of Doing Things

C-O 110. When doing things in a class I lose interest in what others say. (E)
 C-W 114. When doing things as a member of a class I get confused in my work. (D)

Values

V3 18. Cherish personal privacy and the chance it affords to simply be myself. (9)
 V3 27. Have time to think about the deep issues of my personal life. (9)
 V3 34. Be aware of and understand my innermost thoughts. (9)
 V3 38. Develop understanding of others through self-awareness. (9)
 V2 48. Be able to do things that are new and interesting even if they are risky. (9)
 V3 49. Realize that though the world is disappointing I can find happiness in me. (9)

Words Words Words

Being popular is
 Ev. bad rather than good (5)
 Ri. loose rather than tight (4)
 Se. more dangerous than safe (5)
Girl is
 Ac. more thin than fat (3)
 Po. more little than big (3)
Boy is
 Ri. loose rather than tight (6)
 Ev. more pretty than ugly (5)
Work is
 Se. more safe than dangerous (3)
Myself is
 Ac. more new than old (5)
 Ev. more bad than good (4)

Table 50 Observation Schedule #1, Teacher #08

Observed Category	Percent of Total Number of Statements Means		Ranking Among 13 Control Classes Quintiles	
	Control	Exp't'l	Control	Exp't'l
1. Statements by Teacher	74%	90%	D	A
2. Statements by Students	26%	10%	B	E
Addressed to:				
3. Teacher	26%	10%	C	E
4. Class	61%	80%	C	B
5. Particular Student	13%	10%	C	C
Topic, "Content"				
6. Ideational	95%	97%	B	B
7. Group Operation	3%	1%	C	C
8. Activity	1%	0%	D	E
9. Personal	1%	1%	C	C
Form:				
10. Descriptive	67%	68%	D	D
11. Subjective	16%	22%	B	B
12. Relationship	16%	6%	C	D
13. Impulsive	1%	4%	B	A
Frame of Reference				
14. Technical	88%	78%	C	D
15. Professional	9%	4%	C	D
16. Generalized Adult	0%	14%	C	A
17. Self-Concern	3%	4%	B	B
Emotionality				
Number of Incidents per class period				
Defensive	2	3	B	B
18. Fight: Teacher	6	2	A	C
19. Threatening	3	3	B	B
Submissive	2	0	B	C
20. Dependency: Rules	5	1	B	C
Weak	9	3	A	B
21. Flight: Breakdown	3	1	B	C
22. Escape	0	0	C	C
23. Irrelevancy	7	3	A	B
24. Pairing: Person	8	4	B	C
25. Group	0	0	C	C
26. Unidentified Affect	5	7	B	B
27. Humor: Facilitative	1	1	C	C
28. Disruptive	4	1	B	C

Table 51 Observation Schedule #2. Teacher #08

<u>Observed Category</u>	Number of Observed Instances Per Class Period		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Teacher Questions	22	21	D	D
2. Conscripted Answers	16	11	B	C
3. Raise Hands	56	35	B	D
4. Volunteer Answers	11	12	D	D
5. Speak out answer	3	3	C	C
6. Student Comments	5	2	C	D
7. Student Questions	6	9	D	C
8. Lesson Participation	2	2	C	C
9. Study for other class	2	7	B	A
10. Whisper	60	104	A	A
11. Private Play	18	22	B	B
12. Disturb others	1	3	B	A
13. Blow off (violent, imp.)	10	27	A	A

Table 52 Post Meeting Reactions. Teacher #08

	Percent of days satisfaction is higher in		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. How did you feel this class meeting was today?	50%	50%	D	D
2. How often did you find yourself wanting to say things to the class-- but didn't?	57%	43%	B	B
3. How worthwhile to you was what you learned in class?	86%	14%	C	E
4. How often were questions and comments of students really understood and replied to fairly and helpfully?	86%	14%	C	D-
5. How clearly did you understand exactly what the class was supposed to do today?	86%	14%	B	C
6. How difficult was the lesson?	40%	60%	D	D
7. What part of the class was really working on the lesson?	61%	29%	C	D
8. How satisfied were you with the part you played in class?	86%	14%	B	C
9. How well did you work with your teacher with whom you would like to work again next year?	7.0	5.2	D	D
10. Do you look forward to going to each of these classes?	6.7	5.7	D	D-
11. Has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	5.3	3.6	D	D

Table 53 Student Opinion Survey. Teacher #08

Criteria:	<u>Mean Ratings</u> 10-extreme satisfact. 1-extreme dissatisfact.		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
To what extent				
1. is each class meaningful and rewarding?	5.9	5.10	D	D
2. does each class make use of subject materials of the sort you would like to study and work with next year?	6.1	5.7	C	D
3. does each class deal with things that are interesting to talk about outside of class?	5.5	5.2	D	D
4. is each of your classes a group of students you would like to work with again next year?	5.3	6.3	E	C
5. are you willing to do the work required in each of your classes?	7.8	6.9	B	D
6. does each class further your plans for things you want to do after leaving high school?	7.1	6.6	C	D
7. has each class opened new interests or things for you to do?	5.5	5.2	D	E
8. is the time of each class spent on activities which you enjoy?	5.8	5.7	C	C
9. does each class have a teacher with whom you would like to work again next year?	7.0	6.2	D	D
10. do you look forward to going to each of these classes?	6.7	6.7	B	B
11. has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	6.2	5.6	C	D

Table 54 Guess Who Teacher #03

Behavior	Teacher Frequency 1-always; 5-never		Student Frequency 1-always; 5-never		Teacher Approval 1-really glad 5-wish to prevent				
	Means	Quintiles	Means	Quintiles	Means	Quintiles			
	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.			
1. suggests new ideas when the group seems to be stuck	1.9	2.0 C	D	3.0	3.6 B	C	1.5	1.5 C	C
2. continually asks questions in class	2.7	2.9 D	D	3.3	3.2 C	C	2.3	2.5 C	C
3. talks the most	2.1	1.6 D	C	3.4	3.1 D	D	3.9	3.9 C	C
4. usually comes up with answers	2.2	2.0 D	D	2.9	3.1 C	C	1.7	1.6 C	C
5. does not pay attention in class	4.3	4.1 C	B	3.5	3.3 C	C	4.0	3.9 C	B
6. brings in a lot of extra work on things relating to this class	2.6	2.9 C	C	3.8	4.3 C	D	1.6	1.6 C	C
7. usually thinks his or her ideas is best	2.4	2.2 C	B	3.0	3.4 A	A	2.8	3.0 C	C
8. gets things done when most of the class is confused.	2.3	2.1 D	D	3.1	3.0 C	C	2.0	2.1 C	C
10. offers compromises when there are several sides being taken on topic.	1.7	1.9 C	C	2.9	3.3 B	B	2.2	2.1 C	C
11. usually criticizes and blames other peoples' actions or ideas	4.1	3.3 D	B	3.8	4.2 C	C	4.0	3.5 C	C
12. disrupts the work of the class by clowning and fooling around	4.2	3.7 C	B	3.9	3.9 C	C	4.4	4.3 C	C
14. worries about how well he is doing	3.4	3.2 C	C	2.3	2.2 C	C	2.5	2.6 C	C
15. sympathizes with others when this is needed most.	2.0	2.4 B	C	2.8	2.7 C	C	2.4	2.6 C	C
16. usually talks out of turn	3.8	3.9 C	C	3.4	3.3 C	B	4.0	4.2 C	C
17. seems to get upset when unable to answer questions.	4.1	3.8 C	B	3.4	3.2 C	C	3.1	3.1 C	C
18. presents ideas which influence the class	1.6	1.6 C	C	3.0	3.5 C	C	1.8	2.0 C	C

Table 55 Sociometric Ratings. Teacher #08

<u>Choice</u>		Mean Ratings: 1-strong liking 5- strong rejection		Ranking Among 13 Control Classes Quintiles	
		<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1.	Teacher: work with students	2.45	2.47	D	D
2.	: chat with students	2.54	2.53	E	E
3.	Students: work with students	3.16	3.02	E	E
4.	: chat with students	3.13	2.94	E	E
5.	Students: work with teacher	1.30	2.07	B	D
6.	: chat with teacher	1.73	2.25	C	D

Table 56 S Students, positive responses (teacher #08)

Classroom Activities

- | | | |
|----|-----|--|
| C1 | 1. | Have planning sessions in which the whole <u>class</u> is involved. (5) |
| SG | 13. | Be a member of a panel discussion. (4) |
| C1 | 18. | Have a <u>class</u> discussion on a topic suggested by the teacher. (4) |
| A | 21. | Explain a homework problem to the <u>class</u> . (4) |
| C1 | 22. | Engage in <u>class</u> discussion of a movie or filmstrip. (5) |
| A | 24. | Perform a demonstration or experiment for the <u>class</u> . (4) |
| SG | 36. | Study basic course content as a member of a small group of students. (4) |

Participation

- | | | |
|---------------|-----|--|
| Threat Co (L) | 54. | Listening to other members of a student committee talking about the anxieties and pleasure they experience in the committee. (4) |
| Threat A (L) | 57. | Reading a story in which the author describes the innermost private feelings of the characters. (5) |
| Role A (T) | 59. | Thinking about an argument you might have used to persuade others. (4) |
| Threat C1 (T) | 62. | Making a speech to the class about your personal experience. (3) |
| Eval A (L) | 74. | Critically comparing yourself to one of the characters in a TV show or play. (4) |
| Mu C1 (T) | 80. | Being one of the more active persons during a lively class discussion. (5) |
| Eval Co (L) | 83. | Having a student committee you belong to appraise the performances of the various members. (4) |
| Neut A (T) | 91. | Sitting by yourself quietly thinking about things that interest or puzzle you. (5) |

Teacher Description

113. "Planning" type teacher is seen as one from whom S would learn most. (2)

Who Should Decide?

- | | | |
|-------|-----|---|
| T | 2. | Whether and under what conditions you will work alone. |
| Y | 3. | How much help you should accept from another student. |
| Y | 4. | With whom you will work on a project. |
| Class | 10. | How good a job the teacher did today. |
| Y & T | 11. | Whether the teacher should tell you an answer or expect you to dig it out for yourself. |
| Class | 12. | To what extent is the behavior of another student "out of line". |
| Class | 13. | How worthwhile was the class discussion today. |
| Comm | 17. | What type of project you will work on next. |
| Y | 19. | Whether you will do extra-credit work. |
| Y & T | 23. | When your skit or report is ready to present to the class. |

S Students. positive responses (teacher #08)

Values

- V6 17. Have confidence in my personal strength and ability to do things on my own. (9)
V3 27. Have time to think about the deep issues of my personal life. (9)
V4 35. Be grateful and undemanding in my acceptance of life experiences. (9)
V1 44. Realize that attaining future goals is more important than present pleasure. (8)
V2 45. Have much freedom at home, school and work. (9)
V6 5. Live in harmony with nature and other men. (9)
V1 16. Work hard to attain the good things of life honestly. (9)

Words Words Words

Being popular is

- Se. safe rather than dangerous (1)
Po. strong rather than weak (6)
Ac. old rather than new (1)
Ri. somewhat more dry than wet (3)
Ev. good rather than bad (1)
Po. big rather than little (6)

Girl is

- Se. safe rather than dangerous (1)
Eval. pretty rather than ugly (6)
Se. soft rather than loud (6)
Eval. good rather than bad (1)

Being comfortable is

- Po. somewhat more strong than weak (4)
Ri. somewhat more dry than wet (3)
Eval. good rather than bad (1)

Having power is

- Ri. tight rather than loose (1)
Eval. more ugly than pretty (2)
Ac. old rather than new (1)
Se. Loud rather than soft (1)

Boy is

- Se. more safe than dangerous (2)
Eval. more pretty than ugly (5)
Ac. more new than old (5)
Ri. more dry than wet (2)
Po. more little than big (2)

Work is

- Ri. more dry than wet (2)
Eval. good rather than bad (1)
Po. more big than little (5)

Myself is

- Ri. somewhat more tight than loose (3)
Ac. somewhat more fat than thin (4)
Ri. somewhat more dry than wet (3)
Se. somewhat more loud than soft (3)
Po. somewhat more big than little (4)

S Students, positive responses (teacher #08)

Situations

38. When Glenn bawled me out I...(Fight)
(Flight) A. lost interest in what we were supposed to be doing.
B. thought that some of his ideas would be useful. (Work)
40. When Phil felt warm and friendly, he...(pairing)
A. accomplished a lot more. (Work)
(Pairing) B. liked just about everyone.
42. When the group just couldn't seem to get ahead, I...(Work)
(Flight) A. felt like dozing off.
B. became annoyed with them. (Fight)
49. When the leader changed the subject, Al...(Flight)
A. suggested that they stick to the original topic. (Work)
(Depend) B. felt glad that the leader was finally taking over.
62. When several members dropped out of the discussion, Henry...
(Flight)
(Work) A. thought it was time to find out where the group was going.
B. got sore at what he thought was their discourtesy. (Fight)
68. During the argument, Roy's opposition caused Earl to...(Fight)
(Flight) A. withdraw from the discussion.
B. look to the teacher for support. (Depend)
70. When the group seemed to be losing interest, Pat...(Flight)
(Fight) A. became angry with the other members.
B. thought it might just as well adjourn. (Flight)
72. When Mal offered to help me, I...(Pairing)
A. said I was sorry, but I had something else to do. (Flight)
(Pairing) B. was pleased that we would be partners.
78. When I lost track of what Paul was saying, I...(Flight)
A. asked the teacher to explain Paul's idea to me. (Depend)
(Pairing) B. was pleased that it was Mike who explained Paul's idea to me.

Ways of Doing Things

- A-W 95. When doing things by myself I delay getting started on work. (D)
- T-W 101. When I have to work to do with a teacher I don't feel like getting started. (D)
- A-I 103. When doing things by myself I lose interest in ideas. (E)
- G-S 113. When doing things with a few other students I feel very little enjoyment. (D)
- T-W 117. When I do something with a teacher I get confused in my work. (D)
- Cl-S 118. When doing things as a member of the class I feel very little enjoyment. (D)
- A-I 119. When doing things by myself I have difficulty understanding ideas. (E)
- A-S 131. I feel very little enjoyment when doing things by myself. (E)
- A-I 135. When doing things by myself I find it hard to consider ideas. (E)

Table 57 S Students, negative responses (teacher #08)

Classroom Activities

- | | | |
|----|-----|--|
| C1 | 6. | Have a general class discussion led by another student. (3) |
| SG | 8. | Work with a committee to prepare a lesson to present to the class. (2) |
| TD | 9. | Have teacher assign exercises for practice. (2) |
| A | 14. | Grade or evaluate your own performance in an activity. (1) |
| C1 | 29. | Participate in a class drill on fundamentals. (3) |
| SG | 30. | Work with other students in designing and completing a project. (3) |
| A | 33. | Study by yourself to prepare for a test. (3) |
| A | 37. | Begin homework assignments. (2) |

Participation

- | | | | |
|----------|--------|-----|---|
| Mu | Co (L) | 47. | Listening to others on a student committee discuss a topic on the agenda. (2) |
| Role | A (L) | 65. | Thinking about all the things you have to do today. (3) |
| Eval | Fr (L) | 70. | Listening to a group of your friends very frankly criticizing each other's behavior and appearance. (1) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. (3) |
| Eval | IP (T) | 79. | Giving another student your opinion of his strengths and weaknesses. (2) |
| Role | Co (T) | 82. | Telling a student committee what to do next when they appear mixed up or confused. (3) |
| Eval | C1 (L) | 87. | Hearing the class give opinions about the quality of their own discussion. (2) |
| Role | Co (L) | 89. | Having the chairman of a student committee explain exactly what everyone must do. (2) |
| ThreatCo | (T) | 94. | Telling a student committee quite frankly how you feel about the various members. (2) |

Teacher Descriptions

- | | |
|------|--|
| 106. | "Subject expert" type is out of line with <u>S</u> impression of typical teacher. (4) |
| 108. | "Conformity to rules" type is out of line with <u>S</u> impression of typical teacher. (4) |
| 119. | "Planning" type is perceived as not very comfortable by S students. (4) |

Values

- | | | |
|----|-----|---|
| V1 | 16. | Hold my feelings in check and live a life of self-control. (5) |
| V1 | 26. | Behave in a self-disciplined manner. (5) |
| V5 | 28. | Be at ease both physically and mentally without being too ambitious. (5) |
| V5 | 33. | Enjoy good food and drink with a group of friends. (1) |
| V5 | 1. | Be able to enjoy things as they are. (4,5) |
| V1 | 2. | Live a refined and well-mannered life. (5) |
| V2 | 3. | Work hard on my own and pioneer some endeavor. (1,2,3) |
| V5 | 7. | Fully experience present pleasure and not worry about the past or future. (1,2) |
| V5 | 17. | Be able to let oneself go and really enjoy life. (6,7) |

Table 58 U students, negative responses (teacher #08)

Classroom Activities

- | | | |
|----|-----|--|
| TD | 4. | Take notes while the teacher lectures. (1) |
| A | 15. | Do research in the library for your term paper. (3) |
| C1 | 18. | Have a class discussion on a topic suggested by the teacher. (3) |

Participation

- | | | |
|---------------|-----|---|
| Threat Co (L) | 54. | Listening to other members of a student committee talking about the anxieties and pleasures they experience on the committee. (2) |
| Role A (T) | 59. | Thinking about an argument you might have used to persuade others. (2) |
| Neut Co (L) | 60. | Listening to another member of a student committee to which you belong explain about parliamentary rules. (1) |
| Threat C1 (T) | 62. | Making a speech to the class about your personal experience. (1) |
| Mu A (L) | 71. | Reading a book in order to learn all about some topic. (2) |
| Mu C1 (T) | 80. | Being one of the more active persons during a lively class discussion. (3) |

Values

- | | | |
|----|-----|---|
| V4 | 10. | Have sympathetic appreciation for the feelings of other people. (7) |
|----|-----|---|

Table 59 U students. positive responses (teacher #08)

Classroom Activities

- C1 32. Watch as problems are put on the board by another student. (5)

Participation

- Eval Fr (L) 70. Listening to a group of your friends very frankly criticizing each other's behavior and appearance. (3)
 Eval Class (L) 87. Hearing the class give opinions about the quality of their own discussion. (4)
 Role Co (L) 89. Having the chairman of a student committee explain exactly what everyone must do. (4)
 Threat Co (T) 94. Telling a student committee quite frankly how you feel about the various members. (3)

Who Should Decide?

- Comm 11. Whether the teacher should tell you an answer or expect you to dig it out for yourself.
 T 15. Whether the committee you were on did a good job or not.
 T 17. What type of project you will work on next.

Situations

49. When the leader changed the subject, Al...(Flight)
 (Work) A. suggested that they stick to the original topic.
 B. felt glad that the leader was finally taking over. (Depend)
 71. Together John and Fred...(Pairing)
 (Flight) A. wasted the group's time.
 B. supported one another's arguments. (Pairing)

Ways of Doing Things

- G-I 121. When doing things with a few other students I find it hard to consider ideas. (E)

Values

- V1 16. Hold my feelings in check and live a life of self-control. (9)
 V3 18. Cherish personal privacy and the chance it affords to simply be myself. (9)
 V4 29. Live in close relationship with others sharing their joys and sorrows. (8)
 V5 40. Be able to find pleasure in new experiences at any time. (8)
 V1 47. Try always to act in a socially acceptable manner. (9)
 V5 17. Be able to let oneself go and really enjoy life. (9)

Words Words Words

- Being popular is
 Ri. somewhat more wet than dry (4)
Being comfortable is
 Ac. more new than old (5)
Boy is
 Po. somewhat more strong than weak (4)
 Po. somewhat more big than little (4)

Table 60 Observation Schedule #1, Teacher #07

Observed Category	Percent of Total Number of Statements		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Statements by Teacher	69%	67%	D	D
2. Statements by Students	31%	33%	B	B
Addressed to:				
3. Teacher	20%	12%	C	E
4. Class	68%	73%	B	B
5. Particular Student	12%	15%	C	C
Topic, "Content"				
6. Ideational	70%	78%	D	D
7. Group Operation	7%	2%	B	C
8. Activity	19%	20%	A	A
9. Personal	3%	0%	B	D
Form:				
10. Descriptive	89%	90%	B	B
11. Subjective	1%	0%	C	D
12. Relationship	8%	10%	D	C
13. Impulsive	0%	0%	C	C
Frame of Reference				
14. Technical	92%	89%	C	C
15. Professional	7%	11%	C	C
16. Generalized Adult	0%	0%	C	C
17. Self-Concern	1%	0%	C	C
12. Emotionality	Number of Incidents per class period			
13. Defensive	0	0	C	C
18. Fight: Teacher	3	0	C	D
19. Threatening	1	0	C	D
Submissive	0	0	C	C
20. Dependency: Rules	0	0	C	C
Weak	0	0	C	C
21. Flight: Breakdown	0	0	C	C
22. Escape	0	0	C	C
23. Irrelevancy	0	0	C	C
24. Pairing: Person	0	1	E	D
25. Group	0	0	C	C
26. Unidentified Affect	0	0	C	C
27. Humor: Facilitative	0	0	C	C
28. Disruptive	0	0	C	C

Table 61 Observation Schedule #2. Teacher #07

<u>Observed Category</u>	<u>Number of Observed Instances Per Class Period</u>		<u>Ranking Among 13 Control Classes Quintiles</u>	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Teacher Questions	36	82	B	A
2. Conscripted Answers	30	71	B	A
3. Raise Hands	30	18	E	E
4. Volunteer Answers	8	1	E	E
5. Speak out answer	0	1	E	E
6. Student Comments	7	3	B	D
7. Student Questions	14	10	B	C
8. Lesson Participation	1	3	D	C
9. Study for other class	1	3	C	B
10. Whisper	33	30	D	D
11. Private Play	20	12	B	C
12. Disturb others	2	1	B	C
13. Blow off (violent, imp.)	0	0	D	D

Table 62 Post Meeting Reactions. Teacher #07

	Percent of days satisfaction is higher		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. How did you feel this class meeting was today?	36%	64%	C	C
2. How often did you find yourself wanting to say things to the class--but didn't?	27%	73%	C	C
3. How worthwhile to you was what you learned in class?	58%	42%	D	D
4. How often were questions and comments of students really understood and replied to fairly and helpfully?	67%	33%	C	C
5. How clearly did you understand exactly what the class was supposed to do today?	58%	42%	D	E
6. How difficult was the lesson?	44%	56%	A	A
7. What part of the class was really working on the lesson?	67%	33%	C	C-
8. How satisfied were you with the part you played in class?	25%	75%	D	C
9. How much do you like to work again next year?				
10. Do you look forward to going to each of these classes?				
11. Has each of the classes given you opportunity to practice or to use some special skill or talent which you have?				

Table 63 Student Opinion Survey. Teacher #07

Criteria:	<u>Mean Ratings</u> 10-extreme satisfact. 1-extreme dissatisfact.		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
To what extent				
1. is each class meaningful and rewarding?	7.4	6.3	C	D
2. does each class make use of subject materials of the sort you would like to study and work with next year?	7.4	5.8	E	D
3. does each class deal with things that are interesting to talk about outside of class?	4.5	4.8	E	E
4. is each of your classes a group of students you would like to work with again next year?	6.8	5.9	C	D
5. are you willing to do the work required in each of your classes?	7.6	7.3	C	C
6. does each class further your plans for things you want to do after leaving high school?	7.3	6.1	B	D
7. has each class opened new interests or things for you to do?	7.1	5.7	B	D
8. is the time of each class spent on activities which you enjoy?	6.0	5.7	C	C
9. does each class have a teacher with whom you would like to work again next year?	7.5	6.7	C	D
10. do you look forward to going to each of these classes?	6.4	6.0	C	D
11. has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	6.5	6.1	C	C

Table 64 Guess Who. Teacher #07

Behavior	Teacher Frequency		Student Frequency		Teacher Approval				
	1-always; 5-never		1-always; 5-never		1-really glad 5-wish to prevent				
	Means	Quintiles	Means	Quintiles	Means	Quintiles			
	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.	Cont. Exper.			
1. suggests new ideas when the group seems to be stuck	1.6	1.4 C	B	3.2	3.4 C	C	1.4	1.5 C	C
2. continually asks questions in class	1.8	1.8 B	B	3.2	3.2 C	C	2.1	2.1 C	C
3. talks the most	1.7	1.9 C	C	3.0	3.1 C	C	3.8	3.7 C	C
4. usually comes up with answers	1.6	1.9 B	C	3.1	2.7 C	B	2.0	1.6 D	C
5. does not pay attention in class	5.0	4.9 D	D	3.6	3.2 C	C	4.3	4.3 C	C
6. brings in a lot of extra work on things relating to this class	2.5	3.1 C	D	4.7	4.3 E	D	1.5	1.4 C	C
7. usually thinks his or her idea is best	2.4	2.4 C	C	3.6	3.8 C	C	3.3	3.2 C	C
8. gets things done when most of the is confused.	1.8	1.4 C	C	3.2	2.9 C	C	1.8	1.9 C	C
10. offers compromises when there are several sides being taken on topic.	2.1	2.0 C	C	3.4	3.8 C	D	2.1	2.2 C	C
11. usually criticizes and blames other peoples' actions or ideas	3.3	3.2 B	B	4.2	3.9 C	C	3.8	3.8 C	C
12. disrupts the work of the class by clowning and fooling around	4.6	4.9 C	D	3.9	3.7 C	C	4.6	4.6 C	C
14. worries about how well he is doing	2.5	2.9 B	C	1.9	2.0 C	C	2.2	2.2 C	C
15. sympathizes with others when this is needed most.	2.7	2.8 C	C	3.0	2.9 D	C	2.3	2.5 C	C
16. usually talks out of turn	4.4	4.4 D	D	3.6	3.6 C	C	4.3	4.3 C	C
17. seems to get upset when unable to answer questions	4.5	4.4 C	C	3.2	3.4 C	C	3.2	3.3 C	C
18. presents ideas which influence the class	1.4	1.3 C	C	3.5	3.3 C	C	1.8	1.9 C	C

Table 65 Sociometric Ratings. Teacher #07

Choice	Mean Ratings: 1-strong liking 5-strong rejection		Ranking Among 13 Control Classes Quintiles	
	Control	Exp't'l	Control	Exp't'l
1. Teacher: work with students	1.86	1.63	A	A
2. : chat with students	1.58	1.74	A	A
3. Students: work with students	2.83	2.70	C	B
4. : chat with students	2.79	2.72	C	C
5. Students: work with teacher	1.65	1.69	C	C
6. : chat with teacher	2.00	2.08	D	D

Table 66 S students, positive responses (teacher #07)

Classroom Activities

- | | | |
|----|-----|--|
| A | 3. | Take a test or quiz. (5) |
| TD | 4. | Take notes while the teacher lectures. (5) |
| CW | 7. | Go on a field trip. (4) |
| TD | 9. | Have teacher assign exercises for practice. (4) |
| TD | 11. | Get individual help and instruction from the teacher while doing class work. (5) |
| A | 14. | Grade or evaluate your own performance in an activity. (4) |
| TD | 16. | Have teacher lead a discussion in which basic principles are explained. (5) |
| A | 17. | Take notes on a movie or film strip. (3) |
| A | 21. | Explain a homework problem to the class. (5) |
| TD | 23. | Have a conference with the teacher concerning your progress in class. (5) |
| A. | 24. | Perform a demonstration or experiment for the class. (5) |
| SG | 25. | Discuss class material with a group of other students. (4) |
| TD | 28. | Listen to the teacher explain or demonstrate a lesson. (5) |
| A | 37. | Begin homework assignments. (5) |

Participation

- | | | | |
|----------|--------|-----|---|
| Mu | Cl (L) | 46. | Hearing the ideas of other students during class discussion of some topic. (5) |
| Mu | A (T) | 48. | Reading a book and deciding what the author is really trying to say to you. (5) |
| Mu | Fr (T) | 49. | Telling a group of your friends your ideas and feelings about the plans they are discussing. (4) |
| Eval | Cl (T) | 50. | Pointing out good ideas and attacking bad ideas offered during class discussions. (5) |
| Mu | IP (L) | 52. | Listening to another student explain his ideas about a topic you both are familiar with. (5) |
| Threat A | (L) | 57. | Reading a story in which the author describes the innermost private feelings of the characters. (5) |
| Eval | Fr (T) | 63. | Telling a group of friends what is good or bad about their ideas and behaviors. (4) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. (4) |
| Threat | Fr (L) | 76. | Hearing others in a group of your friends tell their innermost feelings about their private problems. (5) |
| Neut | A (L) | 77. | Sitting by yourself remembering things that happened today. (5) |
| Neut | Fr (T) | 78. | Reporting to a group of your friends all about an article you read recently. (4) |
| Mu | Cl (T) | 80. | Being one of the more active persons during a lively class discussion. (5) |
| Role | IP (T) | 84. | Trying to interest another student in some hobby or interest of yours. (4) |
| Threat | IP (L) | 90. | Hearing the private experiences of another student. (4) |
| Neut | Co (T) | 95. | Describing to a student committee what a similar committee did last year. (3) |

Table 66 S students, positive responses (teacher #07)
(Continued)

Teacher Descriptions

- 107. "Planning" type teacher best fits impression of typical teacher. (1)
- 115. "Challenging" teacher fostering independence best fits impression for learning most. (1)
- 119. "Planning" type teacher best fits impression of teacher with whom most comfortable. (1)
- 123. "Traditional-professional" teacher type best fits impression of teacher with whom most comfortable. (1)
- 109. "Challenging" teacher seen as typical. (2)

Who Should Decide?

- | | | |
|-------|-----|---|
| T | 3. | How much help you should accept from another student. |
| Com | 4. | With whom you will work on a project. |
| T | 12. | To what extent is the behavior of another student "out of line". |
| Y | 16. | Whether it is a good idea to see the school counselor about a personal problem. |
| Y & T | 18. | When you will come in for a conference with the teacher. |
| Y & T | 22. | When you need to go to the library. |

S students, positive responses (teacher #07)

Situations

36. When Henry was annoyed, Ray...(Fight)
(Work) A. thought of a way to explain the situation to him.
B. realized just how he felt. (Pairing)
40. When Phil felt warm and friendly, he...(Pairing)
(Work) A. accomplished a lot more.
B. liked just about everyone. (Pairing)
55. When everyone felt angry, I...(Fight)
(Work) A. suggested that they stop and evaluate the situation.
B. was glad that the leader stepped in. (Depend)
58. When the group agreed that it needed more information about how members felt, I...(Work)
(Work) A. described my feelings to the group.
B. wasn't sure I wanted to discuss my feelings. (Flight)
65. When the group suggested a procedure, I...(Work)
A. thought the teacher ought to express his approval or disapproval of it. (Depend)
(Work) B. thought we ought to decide whether to carry it out.
75. When Lou turned to me, I...(Pairing)
A. wished that he would mind his own business. (Fight)
(Depend) B. asked him for help.
78. When I lost track of what Paul was saying, I...(Flight)
(Work) A. asked the teacher to explain Paul's idea to me.
B. was pleased that it was Mike who explained Paul's idea to me. (Pairing)
79. While the group was expressing friendly feelings toward Bill, Ken...(Pairing)
(Work) A. thought that now Bill would be able to work.
B. opened a book and started to read. (Flight)
80. When the leader offered to help him, Pete...(Depend)
A. said that he did not want any help. (Fight)
(Work) B. realized that he did need help from someone.

S students. positive responses (teacher #07)

Ways of Doing Things

- G-W 93. When doing things with a few other students I get confused in my work. (E)
- T-I 96. When discussing things with a teacher I lose interest in ideas. (E)
- G-O 100. When doing things with a few other students I get into trouble. (E)
- C-S 102. When doing things as a member of the class I become upset easily. (E)
- A-I 103. When doing things by myself I lose interest in ideas. (E)
- T-S 104. When doing things with a teacher I feel very little enjoyment. (E)
- G-I 105. While doing things with a few other students I forget ideas that have been explained. (D)
- C-I 107. When doing things in a class I find it hard to consider ideas. (E)
- T-O 108. When doing something with a teacher I have difficulty talking. (E)
- T-I 112. When discussing things with a teacher I find it hard to consider ideas. (E)
- A-S 115. When doing things by myself I become upset easily. (E)
- G-O 116. When doing things with a few other students I have difficulty talking. (E)
- T-W 117. When I do something with a teacher I get confused in my work. (E)
- C-S 118. When doing things as a member of the class I feel very little enjoyment. (E)
- C-I 123. When doing things as a member of a class I get confused in my thinking. (E)
- T-O 124. When doing something with a teacher I feel difficulty in asking for help. (E)
- C-O 126. When discussing things in a class I have difficulty talking to others. (E)
- T-I 128. When doing something with a teacher I get confused in my thinking. (E)
- G-S 129. When doing things with a few other students I have difficulty expressing my feelings. (E)
- A-S 131. I feel very little enjoyment when doing things by myself. (E)
- G-O 132. When doing things with a few other students I feel difficulty in getting help as needed. (E)
- T-W 133. When doing something with a teacher I waste time. (E)
- C-S 134. When doing things as a member of the class I have trouble expressing my feelings. (E)
- A-I 135. When doing things by myself I find it hard to consider ideas. (E)
- T-S 136. When doing something with a teacher I become upset easily. (E)

S students. positive responses (teacher #07)

Values

- V4 19. Live a life of service to others. (9)
V4 21. Live a life in which the interests of others are put ahead of my own. (9)
V3 23. Find the center or real meaning for life within myself, e.g., self-awareness. (9)
V3 27. Have time to think about the deep issues of my personal life. (9)
V3 34. Be aware of and understand my innermost thoughts. (8)
V4 5. Live in harmony with nature and other men. (9)
V1 8. Live a moral life of high ideals. (9)
V4 14. Be the kind of person in whom others will want to put their trust. (8)
V2 18. Get out and do things and not be a thinker or spectator. (7)

Words Words Words

Being popular is:

- Se. more safe than dangerous (2)
Ac. more thin than fat (1)

Girl is:

- Ev. pretty rather than ugly (6)
Ac. thin rather than fat (1)

Being comfortable is:

- Se. safe rather than dangerous (1)
Ri. dry rather than wet (1)
Ev. good rather than bad (1)
Po. big rather than little (6)

Having power is:

- Ev. more ugly than pretty (2)
Ac. new rather than old (6)
Ac. fat rather than thin (6)

Boy is:

- Ri. loose rather than tight (6)
Se. dangerous rather than safe (6)
Po. strong rather than weak (6)
Se. loud rather than soft (1)
Po. big rather than little (6)

Work is:

- Ri. tight rather than loose (1)
Se. safe rather than dangerous (1)
Ev. more pretty than ugly (5)
Po. strong rather than weak (6)
Ac. old rather than new (1)
Ev. good rather than bad (1)
Po. big rather than little (6)

Myself is:

- Ri. loose rather than tight (6)
Se. safe rather than dangerous (1)
Po. weak rather than strong (1)
Ri. more wet than dry

Table 67 S students, negative responses (teacher #07)

Classroom Activities

- | | | |
|----|-----|--|
| CW | 1. | Have planning sessions in which the whole class is involved. (3) |
| A | 15. | Do research in the library for your term paper. (5) |
| CS | 32. | Watch as problems are put on the board by another student. (3) |

Participation

- | | | | |
|--------|--------|-----|---|
| Mu | Co (L) | 47. | Listening to others on a student committee discuss a topic on the agenda. (3) |
| Role | Fr (T) | 61. | Explaining to a group of friends how they ought to go about doing their job. (2) |
| Threat | Cl (T) | 62. | Making a speech to the class about your personal experience. (3) |
| Eval | Fr (L) | 70. | Listening to a group of your friends very frankly criticizing each other's behavior and appearance. (2) |
| Eval | IP (T) | 79. | Giving another student your opinion of his strengths and weaknesses. (2) |
| Threat | Co (T) | 94. | Telling a student committee quite frankly how you feel about the various members. (3) |

Teacher Descriptions

- | | |
|------|---|
| 110. | S group doesn't see, nor can't tell about, the "Buddy" description as representing typical teacher. (3) |
| 120. | S groups do not feel comfortable with the "rule giver". (4) |

Values

- | | | |
|----|-----|--|
| V2 | 15. | "Go it alone" for the most part, and not be dependent on others. (5) |
|----|-----|--|

Table 68 U students. negative responses (teacher #07)

Classroom Activities

- | | | |
|----|-----|--|
| A | 3. | Take a test or quiz. (3) |
| TD | 4. | Take notes while the teacher lectures. (1) |
| TD | 11. | Get individual help and instruction from the teacher while doing class work. (3) |
| SG | 13. | Be a member of a panel discussion. (1) |
| TD | 16. | Have teacher lead a discussion in which basic principles are explained. (3) |
| A | 17. | Take notes on a movie or film strip. (1) |
| A | 21. | Explain a homework problem to the class. (3) |
| TD | 23. | Have a conference with the teacher concerning your progress in class. (2) |
| A | 37. | Begin homework assignments. (3) |

Participation

- | | | | |
|------|--------|-----|---|
| Role | A (L) | 65. | Thinking about all the things you have to do today. (1) |
| Role | Cl (T) | 66. | Keeping class discussion on the beam by bringing the others back to the problem. (1) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. (2) |
| Neut | Fr (T) | 78. | Reporting to a group of your friends all about an article that you read recently. (1) |
| Neut | Co (T) | 95. | Describing to a student committee what a similar committee did last year. (1) |

Ways of Doing Things

- | | | |
|-----|------|---|
| G-W | 93. | When doing things with a few other students I get confused in my work. (C) |
| T-S | 104. | When doing things with a teacher I feel very little enjoyment. (B) |
| G-I | 105. | While doing things with a few other students I forget ideas that have been explained. (C) |
| C-S | 118. | When doing things as a member of the class I feel very little enjoyment. (B) |
| T-O | 124. | When doing something with a teacher I feel difficulty in asking for help. (C) |
| T-W | 133. | When doing something with a teacher I waste time. (C) |
| T-S | 136. | When doing something with a teacher I become upset easily. (B) |

U students, negative responses (teacher #07)

Values

- | | | |
|----|-----|--|
| V1 | 24. | Use the wisdom of the past in order to make a better future. (5) |
| V5 | 33. | Enjoy good food and drink with a group of friends. (5) |
| V4 | 35. | Be grateful and undemanding in my acceptance of life experiences. (5) |
| V1 | 42. | Live a well-organized and productive life. (5) |
| V4 | 43. | Be willing to make sacrifices for the welfare of others. (5) |
| V1 | 2. | Live a refined and well-mannered life. (5) |
| V3 | 9. | Live a quiet, unassuming life that allows time for thought and meditation. (5) |
| V4 | 20. | Have confidence in other people and the world in general. (5) |
| V1 | 22. | Be thrifty and plan for tomorrow. (5) |
| V4 | 23. | Live by the rule of loving my neighbor as myself. (5) |
| V6 | 25. | Be a credit to my family and community. (5) |

Table 69 U students. positive responses (teacher #07)

Teacher Descriptions

110. "Buddy" type fostering intimacy best fits impression of typical teacher. (1)
 120. "Rules" teacher best fits impression of teacher with whom most comfortable. (2)

Who Should Decide?

- C1 12. To what extent is the behavior of another student "out of line".
 Y & T 16. Whether it is a good idea to see the school counselor about a personal problem.

Situations

75. When Lou turned to me, I...(Pairing)
 (Fight) A. wished that he would mind his own business.
 B. asked him for help. (Depend)

Values

- V2 12. Master the world I live in by use of science, tools and bodily energy. (9)
 V2 37. Develop and maintain my bodily strength and health to the fullest. (9)
 V2 45. Have much freedom at home, school and work. (9)

Words Words Words

- Being popular is:
 Po. somewhat more big than little (4)
Girl is:
 Se. somewhat more safe than dangerous (3)
Being comfortable is:
 Ev. somewhat more good than bad (3)
Having power is:
 Ev. more pretty than ugly (5)
Work is:
 Ri. more tight than loose (2)
 Ev. somewhat more ugly than pretty (3)
 Ri. somewhat more dry than wet (3)
 Ev. somewhat more good than bad (3)
 Po. somewhat more big than little (4)
Myself is:
 Po. somewhat more weak than strong (3)
 Ac. somewhat more old than new (30)

Table 70 Observation Schedule #1, Teacher #14

Observed Category	Percent of Total Number of Statements Means		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Statements by Teacher	87%	70%	B	D
2. Statements by Students	13%	30%	D	B
Addressed to:				
3. Teacher	13%	31%	D	B
4. Class	66%	48%	B	D
5. Particular Student	21%	22%	B	B
Topic, "Content"				
6. Ideational	66%	93%	E	B
7. Group Operation	19%	2%	A	C
8. Activity	11%	4%	B	C
9. Personal	4%	1%	B	C
Form:				
10. Descriptive	66%	54%	D	D
11. Subjective	3%	21%	C	A
12. Relationship	25%	25%	A	A
13. Impulsive	1%	0%	D	D
Frame of Reference				
14. Technical	63%	50%	E	E
15. Professional	28%	31%	A	A
16. Generalized Adult	9%	4%	B	C
17. Self-Concern	0%	7%	C	A
Emotionality				
Defensive				
18. Fight: Teacher	0	0	C	C
19. Threatening	0	0	D	D
Submissive				
20. Dependency: Rules	1	1	C	C
Weak	0	0	C	C
21. Flight: Breakdown	0	0	C	C
22. Escape	1	2	C	B
23. Irrelevancy	1	0	C	C
24. Pairing: Person	10	13	A	A
25. Group	2	7	B	A
26. Unidentified Affect	2	5	B	B
27. Humor: Facilitative	3	5	B	A
28. Disruptive	4	1	B	C

Table 71 Observation Schedule #2. Teacher #14

<u>Observed Category</u>	Number of Observed Instances Per Class Period		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. Teacher Questions	21	23	D	D
2. Conscripted Answers	5	7	D	C
3. Raise Hands	40	35	C	C
4. Volunteer Answers	16	14	C	C
5. Speak out answer	1	5	D	C
6. Student Comments	7	6	B	C
7. Student Questions	4	5	D	D
8. Lesson Participation	1	2	D	C
9. Study for other class	1	2	C	B
10. Whisper	54	52	B	B
11. Private Play	9	2	C	E
12. Distrub others	2	0	B	D
13. Blow off (violent, imp.)	2	4	C	B

Table 72 Post Meeting Reactions. Teacher #14

	Percent of time satisfaction is higher		Ranking Among 13 Control Classes Quintiles	
	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. How did you feel this class meeting was today?	17%	83%	C	B
2. How often did you find yourself wanting to say things to the class--but didn't?	0%	100%	E	D
3. How worthwhile to you was what you learned in class?	17%	83%	C	C
4. How often were questions and comments of students really understood and replied to fairly and helpfully?	42%	58%	B	A
5. How clearly did you understand exactly what the class was supposed to do today?	25%	75%	B	B
6. How difficult was the lesson?	64%	36%	B	C
7. What part of the class was really working on the lesson?	0%	100%	D	C
8. How satisfied were you with the part you played in class?	50%	50%	D	C
9. Would like to work again next year?				
10. Do you look forward to going to each of these classes?				
11. Has each of the classes given you opportunity to practice or try out some special skill or talent which you have?				

Table 73. Student Opinion Survey. Teacher #14

Criteria:	Mean Ratings		Ranking Among 13 Control Classes Quintiles	
	10-extreme satisfact. 1-extreme dissatisfact.			
To what extent	<u>Control</u>	<u>Exp't'l</u>	<u>Control</u>	<u>Exp't'l</u>
1. is each class meaningful and rewarding?	5.0	5.5	E	D
2. does each class make use of subject materials of the sort you would like to study and work with next year?	5.4	6.2	D	C
3. does each class deal with things that are interesting to talk about outside of class?	4.8	5.4	E	D
4. is each of your classes a group of students you would like to work with again next year?	5.8	5.8	D	D
5. are you willing to do the work required in each of your classes?	6.5	6.8	E	D
6. does each class further your plans for things you want to do after leaving high school?	6.4	6.4	D	D
7. has each class opened new interests or things for you to do?	5.3	5.5	E	E
8. is the time of each class spent on activities which you enjoy?	5.0	5.1	E	E
9. does each class have a teacher with whom you would like to work again next year?	4.0	5.0	E	D
10. do you look forward to going to each of these classes?	4.2	4.5	E	D
11. has each of the classes given you opportunity to practice or try out some special skill or talent which you have?	5.0	5.3	E	D

Table 74 Guess Who Teacher #14

Behavior	Teacher Frequency 1-always; 5-never		Student Frequency 1-always; 5-never		Teacher Approval 1-really glad 5-wish to prevent	
	Means	Quintiles	Means	Quintiles	Means	Quintiles
	Cont. Exper. Cont. Exper.	Cont. Exper. Cont. Exper.	Cont. Exper. Cont. Exper.	Cont. Exper. Cont. Exper.	Cont. Exper. Cont. Exper.	Cont. Exper. Cont. Exper.
1. suggests new ideas when the group seems to be stuck	2.0 1.9	D C	3.5 3.7	C C	1.5 1.5	C C
2. continually asks questions in class	2.3 2.1	C C	3.4 3.4	C C	2.5 2.2	C C-
3. talks the most	1.2 1.2	A A	3.5 3.4	E D	3.0 3.0	A A
4. usually comes up with answers	1.9 1.9	C C	3.2 3.4	C D	1.8 1.9	C C
5. does not pay attention in class	4.9 4.6	C C	3.2 3.4	C C	3.9 4.1	B C
6. brings in a lot of extra work on things relating to this class	2.5 3.1	C D	4.3 4.3	C C	1.7 1.7	C C
7. usually thinks his or her idea is best	1.9 2.1	B C	3.4 3.7	C C	2.8 3.2	C C
8. gets things done when most of the class is confused	1.7 1.5	C C	3.2 3.0	C C	1.9 1.9	C C
10. offers compromises when there are several sides being taken on topic.	2.0 2.1	C C	3.3 3.7	C D	2.1 2.2	C C
11. usually criticizes and blames other peoples' actions or ideas	3.2 2.8	B A	3.8 4.0	C C	3.4 3.4	C C
12. disrupts the work of the class by clowning and fooling around	4.2 4.0	C C	4.1 4.1	D D	4.1 4.6	C C
14. worries about how well he is doing	3.3 2.6	C B	2.4 1.8	D B	3.2 2.5	E C
15. sympathizes with others when this is needed most.	3.1 3.2	D D	2.1 2.6	B C	2.8 2.6	D C
16. usually talks out of turn	3.3 3.1	B B	3.7 4.0	C B	3.8 3.8	C C
17. seems to get upset when unable to answer questions	3.6 3.8	B C	3.5 3.4	C C	3.1 3.4	C C
18. presents ideas which influence the class	1.8 2.0	C D	3.5 3.7	C C	1.8 1.9	C C

Table 74 Sociometric Ratings. Teacher #14

Choice	Mean Ratings: 1-strong liking 5-strong rejection		Ranking Among 13 Control Classes Quintiles	
	Control	Exp't'l	Control	Exp't'l
1. Teacher: work with students	2.00	1.86	B	B
2. : chat with students	1.88	1.68	B	B
3. Students: work with students	2.53	2.67	A	B
4. : chat with students	2.63	2.67	B	B
5. Students: work with teacher	2.88	2.64	E	D
6. : chat with teacher	3.35	2.68	E	D

Table 76 S students. positive responses (teacher #14)

Classroom Activities

- | | | |
|----|-----|--|
| TD | 4. | Take notes while the teacher lectures. (4) |
| TD | 5. | Review a test and correct mistakes. (4) |
| CW | 7. | Go on a field trip. (5) |
| TD | 9. | Have teacher assign exercises for practice. (4) |
| TD | 11. | Get individual help and instruction from the teacher while doing class work. (5) |
| A | 15. | Do research in the library for your term paper. (5) |
| TD | 16. | Have teacher lead a discussion in which basic principles are explained. (4) |
| SG | 25. | Discuss class material with a group of other students. (5) |
| A | 27. | Prepare on your own, to make a report to the class. (5) |
| TD | 28. | Listen to the teacher explain or demonstrate a lesson. (4) |
| CW | 29. | Participate in a class drill on fundamentals. (4) |
| CW | 32. | Watch as problems are put on the board by another student. (4) |
| A | 33. | Study by yourself to prepare for a test. (5) |
| SG | 34. | Go to the library with your committee to do research. (5) |
| A | 37. | Begin homework assignments. (4) |
| SG | 38. | Be a member of a committee that plans a special event for the class. (5) |
| CW | 39. | Have teacher make it clear what is expected of the class. (5) |

Participation

- | | | | |
|-----------|--------|-----|---|
| Mu | A (T) | 48. | Reading a book and deciding what the author is really trying to say to you. (5) |
| Mu | Fr (T) | 49. | Telling a group of your friends your ideas and feelings about the plans they are discussing. (4) |
| Eval | C1 (T) | 50. | Pointing out good ideas and attacking bad ideas offered during class discussion. (4,5) |
| Threat Co | (L) | 54. | Listening to other members of a student committee talking about the anxieties and pleasures they experience in the committee. (4) |
| Neut | IP (T) | 67. | Telling a visiting student from another school about the program of courses taught in your school. (5) |
| Mu | A (L) | 71. | Reading a book in order to learn all about some topic. (3) |
| Neut | C1 (L) | 72. | Listening to other students giving carefully prepared and detailed reports to the class. (5) |
| Mu | C1 (T) | 80. | Being one of the more active persons during a lively class discussion. (5) |
| Eval | A (T) | 81. | Evaluating a TV program and criticizing the parts that are dull, silly, etc. (5) |
| Role | IP (T) | 84. | Trying to interest another student in some hobby or interest of yours. (4) |
| Eval | C1 (L) | 87. | Hearing the class give opinions about the quality of their own discussion. (4) |
| Neut | A (T) | 91. | Sitting by yourself quietly thinking about things that interest or puzzle you. (5) |

S Students. positive responses (teacher #14)

Teacher Descriptions

- 112. "Subject expert" teacher best fits impression of teachers from whom student learns most. (1)
- 113. "Pupil-teacher planning" type best fits impression of teacher from whom student learns most. (1)
- 118. "Subject expert" best fits for comfort. (1)
- 119. "Pupil-teacher planning" best fits for comfort. (1)
- 115. "Challenging teacher" fostering independence best fits for learn most. (2)

Who Should Decide?

- | | | |
|-------|-----|---|
| Comm | 1. | Whether your project group should meet after school. |
| T | 3. | How much help you should accept from another student. |
| Y & T | 4. | With whom you should work on a project. |
| Cl | 5. | How worthwhile was your contribution to the class discussion. |
| Y & T | 6. | Where you "went wrong" in working a problem. |
| Y & T | 7. | To what extent the teacher should give you his personal opinion of yourself. |
| Comm | 8. | What conclusions you should reach from a discussion of current events. |
| Y & T | 16. | Whether it is a good idea to see the school counselor about a personal problem. |
| Y & T | 18. | When you will come in for a conference with the teacher. |
| Y & T | 19. | Whether you will do extra-credit work. |

Situations

- 36. When Henry was annoyed, Ray...(Fight)
(Work) A. thought of a way to explain the situation to him.
B. realized just how he felt. (Pairing)
- 39. When the leader lost interest, Mort...(Flight)
(Work) A. suggested a way to get everybody working.
B. started talking with his neighbors. (Flight)
- 51. When I felt angry enough to boil, I...(Fight)
(Fight) A. wanted to throw something.
B. wished that the leader would do something about it. (Depend)
- 61. When Chuck felt especially close to Steve, he...(Pairing)
(Depend) A. let him know it. (Pairing)
B. hoped he could turn to him for assistance.
- 62. When several members dropped out of the discussion, Henry...(Flight)
(Work) A. thought it was time to find out where the group was going.
B. got sore at what he thought was their discourtesy. (Fight)
- 70. When the group seemed to be losing interest, Pat...(Flight)
(Flight) A. became angry with the other members. (Fight)
B. thought it might just as well adjourn.
- 72. When Mal offered to help me, I...(Pairing)
(Pairing) A. said I was sorry but I had something else to do. (Flight)
B. was pleased that we would be partners.
- 76. When Hal felt hostile to the group, he...(Fight)
(Fight) A. wished he would not have to come to the meeting.
B. was glad that Bob felt the same way. (Pairing)

S students, positive responses (teacher #14)

Ways of Doing Things

- | | | |
|-----|------|---|
| T-O | 92. | When talking with a teacher I lose the thread of conversation. (E) |
| G-W | 93. | When doing things with a few other students I get confused in my work. (E) |
| C-O | 94. | When doing things as a member of the class I get into trouble with others. (E) |
| G-S | 97. | When doing things with a few other students I become upset easily. (D) |
| A-S | 99. | When doing things alone I find it hard to think clearly about myself. (D) |
| C-S | 102. | When doing things as a member of the class I become upset easily. (D) |
| T-S | 104. | When doing things with a teacher I feel very little enjoyment. (D) |
| G-I | 105. | While doing things with a few other students I forget ideas that have been explained. (E) |
| C-O | 110. | When doing things in a class I lose interest in what others say. (D) |
| G-S | 113. | When doing things with a few other students I feel very little enjoyment. (D) |
| A-S | 115. | When doing things by myself I become upset easily. (E) |
| A-I | 119. | When doing things by myself I have difficulty understanding ideas. (F) |
| G-I | 121. | When doing things with a few other students I find it hard to consider ideas. (D) |
| T-O | 124. | When doing something with a teacher I feel difficulty in asking for help. (D) |
| G-W | 125. | When doing things with a few other students I learn very little for my work efforts. (D) |
| A-I | 135. | When doing things by myself I find it hard to consider ideas. (D) |

Tables to Accompany Chapter 5

Table 80 S Students, Positive Responses, Teacher #05

Classroom Activities

A	3.	Take a test or quiz. (5)
CW	6.	Have a general class discussion led by another student. (4)
SG	8.	Work with a committee to prepare a lesson to present to the class. (4)
A	10.	Work independently on a project you choose yourself. (5)
TD	11.	Get individual help and instruction from the teacher while doing class work. (5)
CW	12.	Listen to other students recite on assigned homework. (4)
SG	13.	Be a member of a panel discussion. (5)
A	15.	Do research in the library for your term paper. (4)
CW	18.	Have a class discussion on a topic suggested by the teacher. (4)
TD	19.	Discuss with the teacher possible activities you could do. (4)
A	21.	Explain a homework problem to the class. (4)
CW	22.	Engage in class discussion of a movie or filmstrip. (5)
TD	23.	Have a conference with the teacher concerning your progress in class. (5)
A	24.	Perform a demonstration or experiment for the class. (5)
SG	25.	Discuss class material with a group of other students. (5)
A	27.	Prepare, on your own, to make a report to the class. (5)
TD	28.	Listen to the teacher explain or demonstrate a lesson. (5)
CW	29.	Participate in a class drill on fundamentals. (5)
SG	30.	Work with other students in designing and completing a project. (5)
A	33.	Study by yourself to prepare for a test. (5)
A	37.	Begin homework assignments. (5)
TD	39.	Have teacher make it clear what is expected of the class. (5)
SG	40.	Evaluate the quality of committee work with other group members. (4)

S Students. Positive Responses. Teacher #05

Participation

Mu	Cl (L)	46.	Hearing the ideas of other students during class discussion of some topic. (5)
Mu	Co (L)	47.	Listening to others on a student committee discuss a topic on the agenda. (4)
Mu	A (T)	49.	Telling a group of your friends your ideas and feelings about the plans they are discussing. (5)
Eval	Cl (T)	50.	Pointing out good ideas and attacking bad ideas offered during class discussion. (5)
Mu	IP (L)	52.	Listening to another student explain his ideas about a topic you both are familiar with. (5)
Threat	Fr (T)	53.	Telling a group of friends your most intimate and personal feelings. (3)
Threat	A (L)	57.	Reading a story in which the author describes the innermost private feelings of the characters. (5)
Role	A (T)	59.	Thinking about an argument you might have used to persuade others. (4)
Role	Cl (T)	66.	Keeping class discussion on the beam by bringing the others back to the problem. (4)
Neut	IP (T)	67.	Telling a visiting student from another school about the program of courses taught in your school. (5)
Role	Cl (L)	68.	Having the teacher call on individual students by name to answer his questions during class discussion. (5)
Mu	Fr (L)	73.	Listening to others in a group of your friends discuss their ideas and beliefs about some problem you all have. (5)
Neut	A (L)	77.	Sitting by yourself remembering things that happened today. (5)
Neut	Fr (T)	78.	Reporting to a group of your friends all about an article you read recently. (4)
Mu	Cl (T)	80.	Being one of the more active persons during a lively class discussion. (5)
Eval	A (T)	81.	Evaluating a TV program and criticizing the parts that are dull, silly, etc. (5)
Role	Co (T)	82.	Telling a student committee what to do next when they appear mixed up or confused. (5)
Role	IP (T)	84.	Trying to interest another student in some hobby or interest of yours. (5)
Neut	Fr (L)	85.	Listening to a group of your friends discuss some event such as a football game they went to. (4)
Mu	IP (T)	86.	Telling another student your ideas about a problem you both have. (5)
Role	Co (L)	89.	Having the chairman of a student committee explain exactly what everyone must do. (4)
Neut	A (T)	91.	Sitting by yourself quietly thinking about things that interest or puzzle you. (5)
Neut	IP (L)	93.	Hearing a student from another school talk about his school. (5)
Threat	Co (T)	94.	Telling a student committee quite frankly how you feel about the various members. (3)
Neut	Co (T)	95.	Describing to a student committee what a similar committee did last year. (4)

S Students. Positive Responses. Teacher #05

Teacher Description

- 109. "Challenging" type fostering independence best fits impression of typical teacher. (1)
- 111. "Traditional-professional" type best fits impression of typical teacher. (1)
- 123. "Traditional-professional" type best fits impression of teacher with whom one is most comfortable. (1)
- 106. "Subject expert" type best fits impression of typical teacher. (2)

Who Should Decide?

- | | |
|-----------|--|
| T-Class | 2. Whether and under what conditions you will work alone. |
| Y-Comm | 3. How much help you should accept from another student. |
| T | 5. How worthwhile was your contribution to the class discussion. |
| Comm | 9. When a committee should ask one of its disturbing members to leave. |
| Y-T | 10. How good a job the teacher did today. |
| Y & T | 15. Whether the committee you were on did a good job or not. |
| T-Y | 20. Who you should sit next to in class. |
| Y & T | 23. When your skit or report is ready to present to the class. |
| T - Class | 24. Whether it is all right to ask questions to end someone's boring report. |

Situations

- 56. When no one was sticking to the point, I...(Flight)
A. got bored with the whole thing. (Flight)
(Work) B. called for clarification of the topic.
- 58. When the group agreed that it needed more information about how members felt, I...(Work)
(Work) A. described my feelings to the group.
B. wasn't sure I wanted to discuss my feelings. (Flight)

S Students, Positive Responses, Teacher #05

Ways of Doing Things

- T-S 92. When talking with a teacher I lose the thread of conversation. (E)
- G-W 93. When doing things with a few other students I get confused in my work. (E)
- C-O 94. When doing things as a member of the class I get into trouble with others. (E)
- T-I 96. When discussing things with a teacher I lose interest in ideas. (E)
- C-S 98. When doing things as a member of a class I get distracted from my work. (E)
- A-S 99. When doing things alone I find it hard to think clearly about myself. (E)
- A-I 103. When doing things by myself I lose interest in ideas. (D)
- T-S 104. When doing things with a teacher I feel very little enjoyment. (D)
- G-I 105. While doing things with a few other students I forget ideas that have been explained. (E)
- C-I 107. When doing things in a class I find it hard to consider ideas. (D)
- T-C 108. When doing something with a teacher I have difficulty talking. (E)
- C-O 110. When doing things in a class I lose interest in what others say. (D)
- A-W 111. When doing things by myself I get distracted from work easily. (C)
- T-I 112. When discussing things with a teacher I find it hard to consider ideas. (E)
- C-W 114. When doing things as a member of a class I get confused in my work. (E)
- G-O 116. When doing things with a few other students I have difficulty talking. (E)
- T-W 117. When I do something with a teacher I get confused in my work. (E)
- G-I 121. When doing things with a few other students I find it hard to consider ideas. (E)
- C-I 123. When doing things as a member of a class I get confused in my thinking. (D)
- G-W 125. When doing things with a few other students I learn very little for my work efforts. (E)
- C-O 126. When discussing things in a class I have difficulty talking to others. (E)
- A-S 127. When doing things by myself I get confused in my work. (E)
- T-I 128. When doing something with a teacher I get confused in my thinking. (E)
- G-S 129. When doing things with other students I have difficulty expressing my feelings. (E)
- C-W 130. When doing things as a member of a class I learn very little for my work efforts. (D)
- A-S 131. I feel very little enjoyment when doing things by myself. (E)
- G-O 132. When doing things with a few other students I feel difficulty in getting help as needed. (D)
- T-W 133. When doing something with a teacher I waste time. (E)
- C-S 134. When doing things as a member of the class I have trouble expressing my feelings. (E)
- A-I 135. When doing things by myself I find it hard to consider ideas. (D)
- T-S 136. When doing something with a teacher I become upset easily. (E)

S Students. Positive Responses. Teacher #05

Values

- | | | |
|----|-----|---|
| V4 | 19. | Live a life of service to others. (9) |
| V6 | 22. | Do things actively and with enthusiasm. (9) |
| V3 | 23. | Find the center of real meaning for life within myself, e.g., self-assurance. (9) |
| V1 | 26. | Behave in a self-disciplined manner. (9) |
| V4 | 29. | Live in close relationship with others sharing their joys and sorrows. (8) |
| V2 | 31. | Plunge courageously into the challenges of life. (9) |
| V6 | 32. | Become a responsible, conscientious citizen. (9) |
| V3 | 34. | Be aware of and understand my innermost thoughts. (8) |
| V6 | 36. | Live in a reasonable and intelligent way. (9) |
| V2 | 41. | Overcome, dominate, or conquer obstacles that hinder human progress. (9) |
| V4 | 43. | Be willing to make sacrifices for the welfare of others. (9) |
| V2 | 46. | Actively compete for the rewards of life. (9) |
| V1 | 47. | Try always to act in a socially acceptable manner. (9) |
| V3 | 4. | Find the most enduring satisfactions within myself. (8) |
| V1 | 8. | Live a moral life of high ideas. (9) |
| V2 | 12. | Master the world I live in by use of science, tools, and bodily energy. (9) |
| V3 | 15. | "Go it alone", for the most part, and not be dependent on others. (9) |
| V2 | 18. | Get out and do things and not merely be a thinker or spectator. (9) |
| V4 | 20. | Have confidence in other people and the world in general. (8) |
| V6 | 22. | Be thrifty and plan for tomorrow. (9) |
| V6 | 25. | Be a credit to my family and community. (9) |

S Students, Positive Responses, Teacher #05

Words Words Words

Being Popular is:

- | | | |
|-----|-----------------------------------|-----|
| Ri. | More <u>tight</u> than loose | (2) |
| Po. | More <u>weak</u> than strong | (2) |
| Ac. | Somewhat more <u>old</u> than new | (3) |
| Ri. | Somewhat more <u>dry</u> than wet | (3) |

Girl is:

- | | | |
|-----|---------------------------------------|-----|
| Ri. | Somewhat more <u>tight</u> than loose | (3) |
| Ri. | Somewhat more <u>wet</u> than dry | (4) |
| Po. | Somewhat more <u>little</u> than big | (3) |

Being Comfortable is:

- | | | |
|-----|------------------------------------|-----|
| Ac. | Somewhat more <u>new</u> than old | (4) |
| Ac. | Somewhat more <u>thin</u> than fat | (3) |

Having Power is:

- | | | |
|-----|------------------------------|-----|
| Po. | More <u>strong</u> than weak | (5) |
| Ri. | More <u>dry</u> than wet | (2) |
| Po. | More <u>big</u> than little | (5) |

Boy is:

- | | | |
|-----|----------------------------|-----|
| Se. | More <u>loud</u> than soft | (2) |
|-----|----------------------------|-----|

Work is:

- | | | |
|-----|---------------------------|-----|
| Ac. | More <u>fat</u> than thin | (5) |
|-----|---------------------------|-----|

Myself is:

- | | | |
|-----|---------------------------------|-----|
| Se. | More <u>safe</u> than dangerous | (2) |
| Ri. | More <u>wet</u> than dry | (5) |
| Ev. | More <u>good</u> than bad | (2) |

Table 81 S Students, Negative Responses, Teacher #05

Participation

- | | | | |
|------|--------|-----|---|
| Eval | IP (L) | 56. | Being told by another student just what are your good and bad points. (3) |
| Role | FR (L) | 58. | Having one of your friends give advice to the whole gang. (3) |

Ways of Doing Things

- | | | |
|-----|------|---|
| A-I | 106. | When doing things by myself I think about things I want to say to others. (B) |
|-----|------|---|

S students, positive responses (teacher #14)

Values

- V1 16. Hold my feelings in check and live a life of self-control. (8)
V6 22. Do things actively and with enthusiasm. (9)
V3 23. Find the center or real meaning for life within myself,
e.g., self-awareness. (8)
V1 24. Use the wisdom of the past in order to make a better future. (8)
V1 26. Behave in a self-disciplined manner. (9)
V2 31. Plunge courageously into the challenges of life. (7)
V6 32. Become a responsible conscientious citizen. (8)
V3 34. Be aware of and understand my innermost thoughts. (9)
V4 35. Be grateful and undemanding in my acceptance of life
experiences. (7)
V2 41. Overcome, dominate, or conquer obstacles that hinder human
progress. (9)
V1 42. Live a well-organized and productive life. (8)
V4 43. Be willing to make sacrifices for the welfare of others. (6)
V1 47. Try always to act in a socially acceptable manner. (8)
V3 49. Realize that though the world is disappointing, I can
find happiness in me. (7)
V6 16. Work hard to attain the good things of life honestly. (8)
V4 23. Live by the rule of loving my neighbor as myself. (7)

Words Words Words

Girl is:

- Ev. Pretty rather than ugly (6)
Ev. More good than bad (2)

Being comfortable is:

- Se. Safe rather than dangerous (1)
Ev. Somewhat more pretty than ugly (4)
Po. More strong than weak (5)
Ri. Somewhat more dry than wet. (3)

Having power is:

- Ev. Somewhat more pretty than ugly (4)
Po. More big than little (5)

Boy is:

- Ev. Somewhat more pretty than ugly (4)
Ac. Somewhat more new than old. (3)
Po. Somewhat more big than little (4)

Work is:

- Po. More strong than weak (4, 5)
Ac. Somewhat more fat than thin (4)

Myself is:

- Se. Safe rather than dangerous (1)
Ac. More new than old (5)
Po. Somewhat more big than little (4)

Table 77 S students. negative responses (teacher #14)

Classroom Activities

- | | | |
|----|-----|--|
| SG | 13. | Be a member of a panel discussion. (2) |
| A | 14. | Grade or evaluate your own performance in an activity. (1) |
| A | 21. | Explain a homework problem to the class. (3) |

Participation

- | | | | |
|--------|--------|-----|---|
| Threat | Cl (L) | 51. | Hearing another student make a spur-of-the-moment speech about himself to the class. (2) |
| Role | IP (L) | 69. | Hearing another student tell you what he would do if he were you. (3) |
| Neut | A (L) | 77. | Sitting by yourself remembering things that happened today. (3) |
| Neut | Fr (L) | 85. | Listening to a group of your friends discuss some event such as a football game they went to. (4) |
| Neut | Co (T) | 95. | Describing to a student committee what a similar committee did last year. (3) |

Values

- | | | |
|----|-----|--|
| V5 | 25. | Experience simple physical pleasure to the fullest. (6) |
| V5 | 40. | Be able to find pleasure in new experiences at any time. (7) |

Table 78 U students. negative responses (teacher #14)

Classroom Activities

- | | | |
|----|-----|--|
| A | 3. | Take a test or quiz. (2) |
| TD | 4. | Take notes while the teacher lectures. (1) |
| TD | 5. | Review a test and correct mistakes. (3) |
| SD | 25. | Discuss class material with a group of other students. (2) |
| A | 27. | Prepare on your own to make a report to the class. (3) |
| A | 37. | Begin homework assignments. (2) |

Participation

- | | | | |
|--------|--------|-----|---|
| Eval | Cl (T) | 50. | Pointing out good ideas and attacking bad ideas offered during class discussion. (3) |
| Threat | Co (L) | 54. | Listening to other members of a student committee talking about the anxieties and pleasures they experience in the committee. (2) |
| Role | Fr (L) | 58. | Having one of your friends give advice to the whole gang. (2) |
| Mu | A (L) | 71. | Reading a book in order to learn all about some topic. (2) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. (2) |
| Eval | A (T) | 81. | Evaluating a TV program and criticizing the parts that are dull, silly, etc. (4) |
| Role | IP (T) | 84. | Trying to interest another student in some hobby or interest of yours. (3) |
| Neut | A (T) | 91. | Sitting by yourself quietly thinking about the things that interest or puzzle you. (4) |
| Eval | Co (T) | 92. | Pointing out to a student committee in what ways its members are being helpful or making trouble. (2) |
| Neut | IP (L) | 93. | Hearing a student from another school talk about his school. (2) |

Teacher Descriptions

- | | |
|------|--|
| 108. | "Conformity to rules" teacher is out of line with impression of typical teacher. (4) |
| 115. | "Challenging" type is not perceived as teacher from whom U can learn most. (4) |
| 121. | "Challenging" teacher is out of line with U expectations for comfort. (4) |

U students, negative responses (teacher #14)

Ways of Doing Things

- G-I 105. While doing things with a few other students I forget ideas that have been explained. (B)
A-S 115. When doing things by myself I become upset easily. (D)
A-I 119. When doing things by myself I have difficulty understanding ideas. (B)
G-I 121. When doing things with a few other students I find it hard to consider ideas. (B)
T-O 124. When doing something with a teacher I feel difficulty in asking for help. (B)
A-I 135. When doing things by myself I find it hard to consider ideas. (B)

Values

- V2 31. Plunge courageously into the challenges of life. (5)
V3 34. Be aware of and understand my innermost thoughts. (5)
V4 35. Be grateful and undemanding in my acceptance of life experiences. (5)
V6 35. Live in a reasonable and intelligent way. (5)
V1 42. Live a well-organized and productive life. (5)
V4 43. Be willing to make sacrifices for the welfare of others. (5)
V3 49. Realize that though the world is disappointing I can find happiness in me. (5)

Table 79 U students. positive responses (teacher #14)

Participation

- | | | |
|---------------|-----|---|
| Threat Cl (L) | 51. | Hearing another student make a spur-of-the-moment speech about himself to the class. (4) |
| Role A (T) | 59. | Thinking about an argument you might have used to persuade others. (4) |
| Role IP (L) | 69. | Hearing another student tell you what he would do if he were you. (4) |
| Neut Fr (L) | 85. | Listening to a group of your friends discuss some event such as a football game they went to. (5) |

Teacher Descriptions

- | | |
|------|---|
| 110. | "Buddy" type is seen as best fitting impression of typical teacher. (1) |
| 112. | "Subject expert" best fits impression of teacher from whom one learns most. (1) |

Who Should Decide?

- | | | |
|-------|-----|---|
| Y | 4. | With whom you will work on a project. |
| Y | 6. | Where you went wrong in working a problem. |
| Class | 9. | When a committee should ask one of its disturbing members to leave. |
| Y | 20. | Who you should sit next to in class. |

Situations

- | | |
|-----|--|
| 39. | When the leader lost interest, Mort...(Flight) |
| | A. suggested a way to get everybody working. (Work) |
| | (Flight) B. started talking with his neighbors. |
| 70. | When the group seemed to be losing interest, Pat...(Flight) |
| | (Fight) A. became angry with the other members. |
| | B. thought it might just as well adjourn. (Flight) |
| 72. | When Mal offered to help me, I...(Pairing) |
| | (Flight) A. said I was sorry but I had something else to do. |
| | B. was pleased that we would be partners. (Pairing) |

U students, positive responses (teacher #14)

Values

- V5 25. Experience simple physical pleasure to the fullest. (9)
V5 40. Be able to find pleasure in new experiences at any time. (9)

Words Words Words

Being comfortable is:

- Se. Dangerous rather than safe. (6)
Ri. Dry rather than wet (1)

Having power is:

- Ev. Ugly rather than pretty (1)
Ac. Fat rather than thin (6)

Boy is:

- Ac. Somewhat more old than new (3)
Po. Somewhat more little than big (3)

Work is:

- Po. Somewhat more weak than strong (3)
Somewhat more thin than fat (3)

Myself is:

- Se. Dangerous rather than safe (6)

Table 82 U Students. Negative Responses. Teacher #05

Classroom Activities

- | | | |
|----|-----|---|
| CW | 1. | Have planning sessions in which the whole class is involved. (2) |
| SG | 8. | Work with a committee to prepare a lesson to present to the class. (2) |
| A | 14. | Grade or evaluate your own performance in an activity. (2) |
| A | 15. | Do research in the library for your term paper. (3) |
| TD | 19. | Discuss with the teacher possible activities you could do. (3) |
| SG | 20. | Organize a group activity with a few other students. (2) |
| TD | 23. | Have a conference with the teacher concerning your progress in class. (3) |
| SG | 25. | Discuss class material with a group of other students. (2) |
| A | 27. | Prepare, on your own, to make a report to the class. (3) |
| TD | 28. | Listen to the teacher explain or demonstrate a lesson. (3) |
| CW | 29. | Participate in a class drill on fundamentals. (3) |
| CW | 32. | Watch as problems are put on the board by another student. (2) |
| A | 33. | Study by yourself to prepare for a test. (2) |
| SG | 36. | Study basic course content as a member of a small group of students. (3) |
| A | 37. | Begin homework assignments. (2) |
| TD | 39. | Have teacher make it clear what is expected of the class. (3) |
| SG | 40. | Evaluate the quality of committee work with other group members. (2) |

U Students. Negative Responses. Teacher #05

Participation

- | | | | |
|--------|--------|-----|---|
| Mu | Cl (L) | 46. | Hearing the ideas of other students during class discussion of some topic. (3) |
| Threat | Fr (T) | 53. | Telling a group of friends your most intimate and personal feelings. (1) |
| Threat | A (L) | 57. | Reading a story in which the author describes the innermost private feelings of the characters. (2) |
| Threat | Cl (T) | 62. | Making a speech to the class about your personal experience. (2) |
| Eval | Fr (T) | 63. | Telling a group of friends what is good or bad about their ideas and behaviors. (1) |
| Role | Co (T) | 66. | Keeping class discussion on the beam by bringing the others back to the problem. (2) |
| Neut | IP (T) | 67. | Telling a visiting student from another school about the program of courses taught in your school. (3) |
| Neut | Cl (L) | 72. | Listening to other students giving carefully prepared and detailed reports to the class. (2) |
| Mu | Fr (L) | 73. | Listening to others in a group of your friends discuss their ideas and beliefs about some problem you all have. (2) |
| Eval | A (L) | 74. | Critically comparing yourself to one of the characters in a TV show or play. (1) |
| Mu | Co (T) | 75. | Telling a student committee your views about the project they are discussing. |
| Neut | A (L) | 77. | Sitting by yourself remembering things that happened today. (3) |
| Neut | Fr (T) | 78. | Reporting to a group of your friends all about an article you read recently. (2) |
| Mu | Cl (T) | 80. | Being one of the more active persons during a lively class discussion. (2) |
| Eval | A (T) | 81. | Evaluating a TV program and criticizing the parts that are dull, silly, etc. (2) |
| Role | IP (T) | 84. | Trying to interest another student in some hobby or interest of yours. (2) |
| Mu | IP (T) | 86. | Telling another student your ideas about a problem you both have. (3) |
| Eval | Cl (L) | 87. | Hearing the class give opinions about the quality of their own discussion. (2) |
| Threat | IP (L) | 90. | Hearing the private experiences of another student. (1) |
| Neut | A (T) | 91. | Sitting by yourself quietly thinking about things that interest or puzzle you. (3) |

U Students, Negative Responses, Teacher #05

Teacher Description

114. The "rules" type is out of line with the students impression of best teacher for learning. (4)
119. The "pupil-teacher planning" type is out of line with students impression of best teacher for comfort. (4)

Ways of Doing Things

- C-I 91. When doing things in a class I forget ideas that have been explained previously. (B)
T-O 92. When talking with a teacher I lose the thread of conversation. (A)
G-W 93. When doing things with a few other students I get confused in my work. (C)
T-I 96. When discussing things with a teacher I lose interest in ideas. (C)
C-S 98. When doing things as a member of a class I get distracted from my work. (C)
A-S 99. When doing things alone I find it hard to think clearly about myself. (B)
T-W 101. When I have work to do with a teacher I don't feel like getting started. (C)
A-I 103. When doing things by myself I lose interest in ideas. (B)
T-S 104. When doing things with a teacher I feel very little enjoyment. (A)
G-I 105. While doing things with a few other students I forget ideas that have been explained. (B)
G-I 107. When doing things in a class I find it hard to consider ideas. (B)
G-W 109. When doing things with a few other students I waste time. (B)
C-O 110. When doing things in a class I lose interest in what others say. (C)
A-W 111. When doing things by myself I get distracted from work easily. (A)
G-S 113. When doing things with a few other students I feel very little enjoyment. (C)
C-W 114. When doing things as a member of a class I get confused in my work. (B)
G-O 116. When doing things with a few other students I have difficulty talking. (B)
T-W 117. When I do something with a teacher I get confused in my work. (B)
A-I 119. When doing things by myself I have difficulty understanding ideas. (B)
G-I 121. When doing things with a few other students I find it hard to consider ideas. (C)
C-I 123. When doing things as a member of a class I get confused in my thinking. (C)

U Students. Negative Responses. Teacher #05

Ways of Doing Things (Cont.)

- G-W 125. When doing things with a few other students I learn very little for my work efforts. (B)
C-O 126. When discussing things in a class I have difficulty talking to others. (B)
A-S 127. When doing things by myself I get confused in my work. (B)
T-I 128. When doing something with a teacher I get confused in my thinking. (C)
C-W 130. When doing things as a member of a class I learn very little for my work efforts. (C)
G-O 132. When doing things with a few other students I feel difficulty in getting help as needed. (B)
C-S 134. When doing things as a member of the class I have trouble expressing my feelings. (C)
A-I 135. When doing things by myself I find it hard to consider ideas. (B)

Values

- V5 28. Be at ease both physically and mentally without being too ambitious. (1)
V5 33. Enjoy good food and drink with a group of friends. (1)
V1 42. Live a well-organized and productive life. (5)
V2 3. Work hard on my own and pioneer some endeavor. (5)
V6 5. Live in harmony with nature and other men. (5)

U Students. Negative Responses. Teacher #05

Words Words Words

Being comfortable is:

- Ac. New rather than old (6)
Ev. Bad rather than good (4,5)

Having power is:

- Po. Somewhat big rather than little (4)

Boy is:

- Ri. Somewhat more loose than tight (4)
Ac. Fat rather than thin (6)
Se. Somewhat more soft than loud (4)

Work is:

- Ev. More pretty than ugly (5)
Ac. More new than old (5)
Ac. Somewhat more fat than thin (4)
Ev. Somewhat more good than bad (3)

Myself is:

- Se. Somewhat more dangerous than safe (4)
Po. Strong rather than weak (6)
Ev. More bad than good (4)
Po. Big rather than little (6)

Being popular is:

- Po. Strong rather than weak (6)
Ri. Wet rather than dry (6)

Girl is:

- Ac. New rather than old (6)

Table 83 U Students. Postive Responses. Teacher #05

Teacher Descriptions

122. The "Buddy" type generally fits the student impression of teacher with whom they would be comfortable. (2)

Who Should Decide?

- | | | |
|-------|-----|---|
| Class | 2. | Whether and under what conditions you will work alone. |
| Comm | 3. | How much help you should accept from another student. |
| Comm | 8. | What conclusions you should reach from a discussion of current events. |
| T | 10. | How good a job the teacher did today. |
| Class | 12. | To what extent is the behavior of another student out of line. |
| Y & T | 16. | Whether it is a good idea to see the school counselor about a personal problem. |
| Y | 20. | Who you should sit next to in class. |
| Y & T | 23. | When your report or skit is ready to present to the class. |
| Class | 24. | Whether it is alright to ask questions to end someone's boring report. |

V Students. Positive Responses. Teacher #01

Situations

32. When the group wanted his views about the task, Sam...(Work)
(Fight) A. wondered why they wanted his views.
B. thought of what he might tell them. (Work)
34. When Don said he felt closest to me, I...(Pairing)
A. was glad. (Pairing)
(Fight) B. was suspicious.
43. When the group wasn't interested, I...(Flight)
(Flight) A. just didn't feel like working.
B. thought that the leader should do something about it. (Depend)
45. When I became angry at Jack, I...(Fight)
(Flight) A. felt like dozing off.
B. ridiculed his comments. (Fight)
47. When Art criticized Bert, I...(Fight)
A. wished that the teacher would help Bert. (Depend)
(Pairing) B. felt grateful to Art for really expressing what we both felt.
53. When Harry thought that he needed a lot of help, Martin...(Depend)
(Pairing) A. warily encouraged him to get it.
B. helped him analyze the problem.
56. When no one was sticking to the point, I...(Flight)
(Flight) A. got bored with the whole thing.
B. called for clarification of the topic. (Work)
58. When the group agreed that it needed more information about how members felt, I...(Work)
A. described my feelings to the group. (Work)
(Fight) B. wasn't sure I wanted to discuss my feelings.
59. When the leader offered to help Carl, Joe...(Pairing)
A. wanted help too. (Depend)
(Fight) B. resented the leader's offer.
60. When Dave and Lou argued, I...(Fight)
A. asked Hank how he felt about them. (Pairing)
(Fight) B. hoped they would slug it out.
71. Together John and Fred...(Pairing)
(Flight) A. wasted the group's time.
B. supported one another's arguments. (Pairing)
72. When Mal offered to help me, I...(Pairing)
(Flight) A. said I was sorry, but I had something else to do.
B. was pleased that we would be partners. (Pairing)
75. When Lou turned to me, I...(Pairing)
(Fight) A. wished that he would mind his own business.
B. asked him for help. (Depend)

II Students. Positive Responses. Teacher #24

Ways of Doing Things

A-I 106. When doing things by myself I think about things I want to say to others. (D)

Values

V4 24. Trust in the goodness of nature and life in general. (9)